

CONFERENCE ABSTRACTS PROCEEDING - Pilsen 2022

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Digital applications in daily ENT practice

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Today, digital applications are indispensable in ENT practice. Especially in the last few years, the discussion in Germany between supporters and opponents has become more heated due to the demands of health policy. What is the situation today? What are the advantages? What are the disadvantages? And who is not considered. The lecture gives an insight into the daily practice with the help of examples and shows ways into the future.

Mandibular advancement splints - a cooperative project between ENT doctors and dentists in Germany

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Mandibular Advancement devices (MAD) are an effective, non-invasive and reversible treatment option for snoring and sleep apnea. They are also a therapy

alternative for CPAP therapy, which reports in the literature with a failure rate of > 30 %. Therefore it has been appealing to many patients in the past suffering from sleep apnea and CPAP failure. Yet costs were not covered by statutory health insurance in Germany. On the contrary costs for the invasive, irreversible, and questionable effective therapy alternative of sleep surgery were covered, which presumably led to numerous unnecessary surgical interventions in the past. Also, in many cases the costs for implantation of an upper airways stimulation (UAS) device were covered in case of CPAP failure. Even though therapy with a MAD had to be evaluated before UAS, due to the lack of cost takeover MAD therapy was often not accepted by patients and the costlier UAS was performed. Since January 2022 the costs for a MAD are covered by statutory health insurance in Germany as a second line therapy in case of CPAP failure. Regulations dictate that MAD therapy has to be indicated and controlled by a sleep medicine specialist and adjusted by a dentist. We founded a cooperation of ENT doctors and dentists providing this additional treatment option for our patients with CPAP failure following the actual regulations of statutory health insurance in Germany.

Postoperative Calcium Homeostasis

Albazweer M., Abrams J.

The postoperative drop in serum calcium in the context of hypoparathyroidism is a feared complication of bilateral strumectomy. In addition to artificial injury to the parathyroid glands during the surgical procedure, preoperative vitamin D deficiency may also be a cause of postoperative calcium drop. We report on 2 patients who suffered from a long-lasting and partly life-threatening calcium deficiency after bilateral strumectomy. The cause turned out to be a preoperatively massively reduced vitamin D level. Because of these serious complications, we routinely perform vitamin D, parathyroid hormone and calcium measurements immediately postoperatively in all bilateral strumectomies, especially those of inflammatory thyroid diseases.

Rare diseases with eosinophilia - case reports

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Kimura Disease (KD) and Angiolymphoid Hyperplasia with Eosinophilia (ALHE) are rare entities with idiopathic origin.

KD is a chronic inflammatory disorder commonly presented as painless lymphadenopathy or subcutaneous masses in the head and neck region, this disease affects mostly young Asian men. ALHE manifests as isolated or grouped papules, plaques or nodules in the skin of the head and neck. Controversy has existed in the literature regarding whether KD represents chronic deeper form of ALHE.

The difference is based on clinical picture and histopathological characteristics when ALHE represents first AV malformations with secondary inflammation and KD may represent a primary inflammation with secondary vascular proliferation.

We would like to present two patients with these rare diseases, their clinical manifestations and response to the therapy.

Our first experience with initial titration of positive airway pressure devices in patients with obstructive sleep apnea syndrome at the outpatient sector

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Introduction: The obstructive sleep apnea syndrome (OSA) is frequent diagnosis at ENT department. Patients with moderate or severe OSA are indicated for positive airway pressure (PAP) therapy. At our outpatient clinic, the initial

titration by PAP was held on an outpatient basis, at the patient's home.

Methods: We started the initial titration PAP in patients with moderate or severe OSA from February 2022. The patients with severe OSA with hypoventilation were excluded from our first titration list. Ten patients were treated until June 2022. We started with the APAP mode for titration with PAP setup according to the patient's constitution and AHI in the range of 4 - 16 mbar. The CPAP mode was applied according to the result of the first night for next titration days. Depending on mask leak and residual AHI, the CPAP treatment was either retained or converted back to APAP. The titration period was ranged between 3 and 5 days. Each patient received the nasal and the full-face mask. The beginning of the titration was held with the nasal mask, in case of high mask leaks or patient's discomfort the mask was converted to full face type. In addition to objective parameters from titration, patients' subjective satisfaction with sleep quality and snoring reduction were monitored. The patients were contacted daily to consult their subjective status with the doctor.

Results: All patients were compliant, no one refused the PAP therapy after titration. The input AHI ranged between 19 and 67, with the residual AHI after treatment between 0.1 and 3.8. Nasal masks were mostly used. All patients subjectively felt the reduction of daily fatigue and snoring intensity during PAP usage.

Conclusion: The PAP treatment in patients with moderate or severe OSA can be titrated in the outpatient sector with good outcome results and patient satisfaction.

Newborn Hearing Screening in the Pilsner and Carlsbad Regions in 2020 and 2021

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Introduction

Hearing loss occurs in 0.1-0.4 % of healthy newborns, with a higher incidence of

2-5 % in the group of newborns at high-risk. In the Czech Republic, severe hearing loss occurs in 100-200 newborns per year. The aim of this study is to analyze the results of hearing screening in 2 regions in 2020 and 2021.

Materials and methods

According to the 2018 Methodological Guideline of the Ministry of Health, a total of 16 431 children were examined in the years under review. The methodology included 3 levels of the screening (neonatology unit, rescreening ENT unit and regional rescreening center). Physiological newborns are recommended to screen by transient evoked otoacoustic emissions, newborns at high-risk by automatic auditory brainstem responses (automatic BERA) examination.

Results

In the Pilsner region, 362 children (3.10 %) had a positive screening, 223 children (61.60 %) attended the first rescreening and 74 children had a positive rescreening. 14 children were evaluated as candidates for hearing aids (0.12 % of the total number of children born), 2 children with cleft palate defect are expected to improve their hearing after the surgery. In the Carlsbad Region, 315 children (6.64 %) had a positive screening, 103 children (32.70 %) attended the first rescreening, 24 children had a positive rescreening. 1 child was evaluated as a candidate for a hearing aid (0.02 % of the total number of children born). In both regions, no child was indicated for cochlear implantation or bone anchored hearing device.

Conclusion

The total number of severe hearing impairments in both regions studied was minimal in 2020-2021. This may be partly due to low compliance with 2nd and 3rd level of the screening, which needs to be improved in the future, as well as the collaboration across all workplaces.

Metastasizing pleomorphic adenoma

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Introduction. Pleomorphic adenoma (PA) is the most common salivary gland tumor. Although it is a benign tumor, there is a risk of malignant transformation into carcinoma ex pleomorphic adenoma or carcinosarcoma. Very rarely, metastases of an otherwise histologically benign PA may occur in patients with PA. Since the mid-20th century, only a few dozen cases of metastasizing pleomorphic adenoma (MPA) have been reliably described in the literature. In the 2017 WHO classification of head and neck cancers, MPA has been moved from the malignant category to the variant PA category, but the correct classification according to biological behaviour for this rare entity remains controversial.

Methods. The aim of this study is to report our experience with MPA. The results are then confronted with available literature sources.

Results. We report two cases of MPA (male 49 years, male 78 years). Both had history of previous repeated surgeries for PA prior to diagnosis of MPA (history of surgery 18 and 35 years). In one case, the disease manifested as dysesthesia of CN V/2 with isolated tumor in the skull base region. In the other case, the finding was an isolated lesion in the temporal bone region distant to the site of recurrence in the parotid region. Both cases were managed surgically with histopathological evidence of an otherwise benign PA. Follow-up is 6 years. Both are without evidence of disease recurrence.

Conclusion. MPA is a rare diagnosis. It usually manifests years after the diagnosis of primary PA, and most commonly metastasizes to the skeleton. Although histologically benign, metastases may clinically show signs of malignancy. The amount of published work regarding the biological behavior and prognosis of patients with MPA is limited, and there is wide variation in outcomes. Thus, there remains a need for documentation of individual cases of this rare disease.

This work was supported by the research project of Charles University Cooperatio - Surgical Disciplines.

New Minimally Invasive Aesthetic Incision For Selected Case Of Parotid Tumour

Dewan M. H.

Introduction: Parotidectomy is usually done by 'Lazy S' incision (pre auricular - mastoid - cervical), may cause ragged scars & skin deformity. Minimally invasive parotidectomy or para-auricular is also alternative of 'Lazy S' incision entails less scarring. Aim of the study was to evaluate the surgical treatment of Parotid Swelling in selected group of patients by retro auricular incision.

Materials and Methods: Total number of patients-Sixty two (62). Patients suffering from Pleomorphic adenoma (40) , Chronic Parotitis(2) mucoepidermoid carcinoma(9), wardinstumour (5),tuberculosis(3),Adenocarcoma(1),Benign parotid cyst (2)were reviewed. Superficial parotidectomies were done in all cases by retro auricular incision.

Results: Retro auricular incision has very good aesthetic result and no visible incision mark from the first post-operative day. All patients were very happy with no visible scar/incision mark. Temporary post-operative facial weakness developed in 4 cases & no permanent facial palsy. 2 cases suffered from infection (one patient was diabetic and one had very thin skin flap) and 2 patients suffered from Frey"s syndrome, 2 patients from sialocele and 1 from salivary fistula. 20 (Twenty) patients suffered from hypoesthesia of the operative area. Transient ear discomfort occurred in 15 patients. These complications have been described by other surgeons, by other incisions for parotidectomy operation.

Conclusions: Parotidectomy by retro auricular incision may be highly acceptable procedure both from aesthetic point of view as well as surgical approach.

Operative treatment of tertiary hyperparathyroidism

Enas S.

We reviewed our way in operative treatment tertiary hyperparathyroidism. Tertiary hyperparathyroidism is characterized by excessive secretion of PTH after longstanding secondary hyperparathyroidism, in which hypercalcemia has ensued. Tertiary hyperparathyroidism typically occurs in men and women with long-standing chronic kidney disease (CKD) which associated with several metabolic disturbances that lead to increased secretion of PTH, including hyperphosphatemia, calcitriol deficiency, and hypocalcaemia.

On the basis of selected examples, we show the indication and our procedure for

obtaining an adequate parathyroid hormone supply. Cooperation with the treating nephrologists is the basis for a good outcome.

Severe sleep apnea caused by massive tongue base hypertrophy

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Introduction

The authors present a case of severe sleep apnea caused by massive tongue base hypertrophy, which required tracheostomy. After very difficult surgeries, despite the patient was at extremely high risk for general anesthesia and surgery itself, there was achieved significant reduction of tongue base, which allow decannulation.

Case report

A 57- years old morbidly obese female patient (BMI 52 kg/m²) was treated for progressive dyspnea and apnea. The problem caused massive tongue base hypertrophy. Endoscopically there was no differentiation of laryngeal structures. The state was so severe that it required tracheostomy. Tracheostomy treated apnea very well but enormously decreased patient's life quality, because she was quite young and foster parent to 4 children. So this was a big motivation for decannulation not only for patient but for us too. After consideration of alternative treatment options the surgery represented the only way even though patient was at extremely high-risk for anesthesia, and the anatomical findings were very difficult. Subsequently, the patient underwent a partial laser (thulium) resection and radiofrequency thermoablation of the tongue base. After 3 surgeries, which represents 6 months from first administration, significant reduction of tongue base was achieved, which led to decannulation and residual apnea was treated with CPAP.

Conclusion

The aim of this case is to show possibility, even with patient like ours - extremely at high-risk for anesthesia, surgery - who were primarily treated with tracheostomy, that there is other treatment options or better say options how to achieve decannulation and deal with apnea, for example, with CPAP.

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What clinical consequences can we draw from laryngeal electromyography?

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Introduction: Laryngeal electromyography is a useful tool to characterise laryngeal nerve lesions. The findings depend on the time course of a given lesion. Method: experiences and examples from our neurolaryngologic clinic are presented. Results: LEMG was found to be useful to proof structural integrity of the recurrent laryngeal nerve (RLN) after query transections, to verify a neural lesion, to differentiate RLN from vagal nerve lesions, to estimate prognosis for recovery of RLN lesions thereby aiding the timing for irreversible procedures for voice improvement, to detect misdirected unfavourable kinds of reinnervation (synkinesis) thereby aiding the choice of corrective measures or to characterise spasmodic dysphonia which helped to adapt individual plans for botulinum toxin therapy. Conclusions: Knowledge of the time course of certain RLN or vagal lesions enables a correct interpretation of LEMG findings. With this knowledge LEMG represents an important aide for clinical decision making in our opinion.

Preliminary results of hypoglossal nerve stimulation in CPAP-intolerant patients with OSA in Gera

Geist L.

Obstructive sleep apnoea (OSA) is a widespread disease associated with an increased cardiovascular risk as well as arterial and pulmonary hypertension, heart disease, stroke and diabetes. The affected patients present a repetitive collapse of the upper airway during sleep leading to hypoxemia and hormonal imbalance. The diagnostics consist of screening questionnaires and polysomnography. While conservative measures such as body weight reduction, sleep hygiene and supine position preventers can be effective in mild OSA, an apnoea/hypopnoea index (AHI) of more than 15 demands a specific therapy. Usually patients are sent to an ENT specialist to rule out a severe deviation of the nasal septum or tonsillar hypertrophy. The gold standard, however, is a continuous positive airway pressure therapy (CPAP) at night, which is adjusted to the patient's condition in a sleep laboratory.

Few CPAP-intolerant patients fit the selection criteria for hypoglossal nerve stimulation. Here, a pacemaker generates an electrical impulse causing the airway to contract and remain open. Beforehand, contraindications for implantation such as AHI between 15- 65, body mass index < 35 kg/m² and concentric collapse of the soft palate must be checked. Furthermore, the intolerance of CPAP must be documented well. If the conditions are met, the pacemaker can be implanted and synchronised to the breathing rhythm. The stimulation electrode is attached to the hypoglossal nerve to activate the protrusion of the tongue and open the airway. The aim is to minimise AHI, improve daytime sleepiness and reduce cardiovascular risk. Patients are followed up by polygraphy, polysomnography and interpretation of the stored data of the pacemaker. Most patients benefit from the treatment. Only marginal side effects like problems falling asleep or mild lingual pain were reported in the first month. In summary, hypoglossal nerve stimulation is a promising therapy for OSA in CPAP-intolerant patient

Effectiveness of surgical treatment in patients with obstructive sleep apnea

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Aim of the study: The purpose of this study was to evaluate the effectiveness of surgical treatment in patients with obstructive sleep apnea. We would like to ascertain in our study whether the targeted and personalized surgical treatment of obstructive sleep apnea can achieve similar effectiveness of surgical treatment in all degrees of severity of obstructive sleep apnea.

Methods: The retrospective study included adult 65 patients who had undergone the basic ear, nose and throat examination, multi-channel polygraphy confirming the diagnosis of obstructive sleep apnea and subsequent surgical treatment: uvulopalatopharyngoplasty, or radiofrequency-assisted uvulopalatoplasty, uvulaflap in combination with or without radiofrequency induced thermotherapy at the base of the tongue, and subsequent control multi-channel polygraphy at 3-12 months after surgery.

Results: It was confirmed that postoperatively all groups of patients reported a statistically significant reduction in apnea/hypopnea index by 59 % ($p=6.7 \cdot 10^{-12}$) and reduction in desaturation by 57 % ($p=3.2 \cdot 10^{-5}$). The most effective surgical procedure for obstructive sleep apnea were uvulopalatopharyngoplasty in combination with radiofrequency induced thermotherapy at the base of the tongue with the reduction of apnea/hypopnea index by 59 % ($p=1,8 \cdot 10^{-12}$) and reduction of desaturation by 51 % ($p=0.001$), uvulopalatopharyngoplasty with the reduction of apnea/hypopnea index by 57 % ($p=0,006$) and reduction of desaturation by 85 % ($p=0.07108$).

Conclusion: The surgical treatment of obstructive sleep apnea shows very good effectiveness in all degrees of severity of obstructive sleep apnea provided the standardized diagnosis of the site of obstruction is made and the surgical procedure is selected accordingly.

Epidemiology and microbiology in peritonsillar abscesses

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Introduction

Peritonsillar abscess (PTA) is one of the most common complications of acute tonsillitis, caused by penetration of the infection from the follicles and lacunae of the tonsils into the space between the tonsillar capsule and the upper pharyngeal sphincter muscle. The aim of the work was to evaluate retrospectively the incidence of PTA depending on the season, determine the microbial spectrum of PTA and its relationship to the age and gender.

Materials and methods

Included 966 patients treated for the peritonsillar abscess at the Dpt. of Otorhinolaryngology at the University Hospital in Pilsen between 2014 and 2018. Patients were divided into 3 groups according to age - children under 18 years, patients from 19 to 50 years and older than 51 years. The cultivated pathogens spectrum and the incidence of PTA depending on the season, age and gender were subjected to a retrospective analysis.

Results

The incidence of PTA does not show significant differences during the year. Statistically significant differences in the microbial spectrum of PTA between the compared groups according to age were found for *Streptococcus pyogenes* and the group of other streptococci, for MRSA, *Pseudomonas aeruginosa*, *Enterobacter*, *Fusobacterium*, *Prevotella*, *Veillonella* and *Candida*. A statistically significant difference of agents depending on gender was demonstrated for the bacterium of the *Fusobacterium* genus.

Conclusion

In the studied sample, we did not demonstrate a statistically or clinically significant difference in the incidence of PTA depending on the season. We found a statistically different incidence depending on gender for *Fusobacterium*. Statistically significant results were the absence of pathogenic fungi in children and in the group of patients over 51 years of age the increased proportion of anaerobic bacteria. Regardless of age, the most numerous microbial group consisted of microbes of the *Streptococcus* genus.

Infection of the lacrimal sac by high infectious fungus - differentiated considerations

Hassounah A.K., Kohl J., Langer J.

Mycotic infections in ENT are frequent. These often appear in patients with diabetes, patients who are immunosuppressed e.g. because of chemotherapy but can also affect healthy people. Between the most common ENT fungal infections are sinus infections that can cause nasal congestion and sinus pain. Mycotic mukositis can affect the entire digestive tract. Otomycosis is a variant of external otitis that appears often in patients with hearing aids and diabetes. An unusual case of mycotic dacryocystitis caused by *Arthrographis kalrae* will be reported.

This pathogen is a filamentous ascomycetous fungus that occurs worldwide and is responsible for skin and nail infections in humans. Infections caused by this pathogen are occasionally resistant to standard antifungal drugs. If left untreated, serious complications can result, like documented in the literature with cases of maxillary and ethmoid sinusitis with accompanying loss of vision. A 79-year-old patient presented to our clinic with a swelling in the area of the right lacrimal sac with accompanying epiphora. The primary suspected diagnosis was acute bacterial dacryocystitis. Therefore a topical and intravenous antibiotic therapy was initiated and an incision of the abscess was executed in the area of the right corner of the eye. This resulted a reduction of symptoms. The microbiological finding test showed a growth of *A. kalrae*. According to the antimycogram, intravenous therapy with voriconazole was carried out, followed by oral therapy for 4 weeks. The microbiological controls showed no evidence of *A. kalrae*. The re-presentation of the patient after 2 months with the same symptoms let us consider the possibility of radiological and endoscopic examination of the paranasal sinuses, which result without pathological findings.

In the case of therapy refractory inflammation, the differential diagnostic possibility of a fungal infection should always be considered. In highly pathogenic agents, consistent therapy must take place.

Typical and unconventional risk factors of post-tonsillectomy hemorrhage - a retrospective study

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Background/Introduction

The study focuses on typical prognostic factors of post-tonsillectomy bleeding – age group, sex, type of surgery, diagnosis, and medical history as well as less common factors such as laterality, experience and dexterity of the surgeon, ligature, and weather conditions.

Methods

A retrospective analysis of post-tonsillectomy (post-TE) and post-tonsillotomy (post-TT) hemorrhage in 778 patients who underwent surgery in the ENT Department of University Hospital in Hradec Králové between the years 2014 – 2021. Patients were divided into two groups – 241 children (<18 y. o.) and 537 adults. Data were obtained from patient's medical records.

Results

Overall incidence of post-TE/TT hemorrhage reached 21%, out of those 7,6% were severe requiring revision under general anesthesia. Adults and males were at higher risk of bleeding. Out of surgical techniques UPPP (uvulopalatopharyngoplasty) shows the highest rate of bleeding (12,4%). Among pro-hemorrhage factors in our study were – higher age and BMI in children and lower age in adults, one-sided tonsillectomy in males shows lower risk of hemorrhage. Comorbidities, medication, experience and dexterity of the surgeon were not proven to be statistically significant. Hemorrhage occurred earlier in children – on the day 4, in adults on day 6 post-surgery. A weather as a solitary factor showed no statistical significance, however if using machine learning methods, it seems to be important variable in more complex prognostic schemes.

Conclusion(s)

Risk of post-TE/TT hemorrhage is higher in adults and males. Bleeding mostly occurs between the day 4 and 6 post-surgery. Unconventional risk factors such as period of the year and weather conditions seem to play a role in post-TE/TT hemorrhage as well.

Malignant tumors of the submandibular gland - a rare diagnosis

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Introduction. Salivary gland tumors are rare, accounting for 3% of all head and neck tumors; approximately 80% originate in the parotid gland and only 5 to 15% originate in the submandibular gland (SMG). The malignancy rate in SMG is generally higher than in the parotid gland, ranging between 35% and 50%.

Methods and Material. Retrospective study. The study included patients surgically treated for submandibular cancer between 1.1. 2006 and 31.12.2016 with follow-up for at least 5 years (up to 2021). The data obtained were analyzed.

Results. In the observed period, 62 patients (37 female, 25 male) were surgically treated for submandibular gland disease. The median age was 56 years (18-83 years). Submandibular carcinoma was confirmed in 14 (22.6%) patients (10 male, 4 female). The median age was 64 years (37-83). The most common was adenoid cystic carcinoma (5 cases) followed by acinocellular carcinoma (2 cases), carcinoma ex pleomorphic adenoma (2 cases) and squamous cell carcinoma (2 cases). Other types of tumor occurred in 1 case (epithelial-myoepithelial carcinoma, myoepithelial carcinoma, and poorly differentiated adenocarcinoma). In one case, acinocellular carcinoma affected both submandibular glands. Lymph node metastases were confirmed in 3 patients. Recurrence occurred in 1 patient in the observed period.

Conclusions. Our results confirm the low prevalence of submandibular gland carcinomas with high histological variability and a different prognosis.

Prevention of recurrent Cholesteatoma by respecting the pathophysiologic genesis: a new theory of the origin of a retraction pocket

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Cholesteatoma surgery consists of two steps: eradication of the squamous epithelium and reconstruction. Modern techniques of eradication improve the results, but recidives still remain a concern. The frequency of residual recidives is solely dependent of the surgeon's proficieny to remove all epithelial cells, quite similar to carcinoma surgery. However, the development of a recurrent recidive,

which constitutes a new, original cholesteatoma, is unpredictable, as conventional surgery will only repair the defects, but not remedy the pathophysiologic origin of the disease. Therefore, in order to effectively reduce the risk of recurrency, the causes for the development of a cholesteatoma should be cleared.

It is undisputed by most otologists that a cholesteatoma develops from a retraction pocket whose self-cleaning is disrupted by migration of the epithelium. As the keratin accumulates, destructive breakdown of the bone tissue under the perimatrix develops as a result of the bodies' frustrated attempt to enzymatically dissolve this foreign body. Thus, to prevent the development of a recurrence, it is important to prevent this early phase, the development of a retraction pocket.

Until now, however, explications of the cause of a retraction pocket have been very controversial: the tube's dysfunction with the development of a negative pressure in the tympanic cavity, which is often considered responsible (e-vacu-theory), is not correct. However, many findings from clinical observations, supported by results from animal experiments, showed that there was always an inflammation of the mucosa under a developing retraction pocket.

The new idea explaining the genesis of a retraction pocket is that the tympanic membrane, which has the potency of horizontal migration, appears to actively migrate toward the focus of inflammation in the tympanic cavity to cover and control the inflammation. This principle of controlling inflammation in a cavity is also found elsewhere in the body, such as in the abdomen with the migration of the omentum majus. An irritationless retraction pocket, as is often seen as an incidental finding, should therefore not be regarded as pathology per se, but as a sign of successful healing of a previous inflammation in the middle ear. Only when self-cleaning no longer occurs does the 2nd phase begin, the development of a cholestatoma.

Therefore, in order to prevent the re-development of a retraction pocket, it is essential in the context of a cholesteatoma surgery, after the removal of the epithelium, to avert a renewed mucosa inflammation. The experience gained in surgery of the nasal sinuses can be used for this purpose: It is crucial to ensure unobstructed drainage from the mucosa-lined cavities. Surgery should therefore prevent bottlenecks in the path of mucosal drainage towards the tube ("tensor fold") or scarring on the promontory, by inserting thin silicone sheets. This warranty of unimpeded drainage, along with the creation of stable walls, is the decisive measure for preventing recurrent cholesteatoma recurrence, thus based on the pathophysiology of cholesteatoma genesis.

Temporo-parotid resection in management of advanced parotid tumors

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Introduction

Locally advanced tumors of parotid gland are often burdened by local recurrence or positive margins because of close contact or infiltration of the mastoid and/or external auditory canal. Principles of surgery of the skull base has become an important part of head and neck oncology during the last decades. The temporo-parotid resection is an example of a procedure dealing with such an issue.

Methods

We retrospectively reviewed data of patients undergoing surgery for primary parotid tumors during the period 2016-2021 to analyze outcomes of temporo-parotid resections.

Results

Eleven patients with primary tumors of the parotid gland were indicated for temporo-parotid resections (4 males/11 females; 47-84 years, mean 70 years; salivary ductal carcinoma: 4, adenoid cystic carcinoma: 2, basal cell adenocarcinoma: 2, squamous cell carcinoma: 1; spindle cell carcinoma: 1, pleomorphic adenoma: 1). In two cases CN VII (HB1) preservation was possible, while in 6 patients CN VII reconstruction was performed, and in 3 patients static/dynamic suspension techniques were employed. Wound revision for hematoma in one patient was the only complication encountered. In all cases R0 resection was achieved. Seven of the 11 (63%) patients were alive at the time of analysis, and follow-up ranged from 12-76 months. Two patients whose disease relapsed (distant metastases in salivary ductal carcinoma) died due to the disease. Other patients are disease free.

Conclusion

We would like to highlight the need for a shift in the surgical perspective, from the enlarged parotidectomy to the en-bloc temporo-parotid resection. The latter is based on the skull base surgery principle of en-bloc temporal bone resections, as

applied in primary malignancies of temporal bone to achieve radical „compartmental” temporo-parotid resection.

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Advances in neoatal cleft surgery

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Background: Neonatal operations for cleft defects have been performed at the Motol hospital since 2005. A total of 853 patients were operated on. For a long time, we have been engaged in the study of disorders of the Eustachian tube and middle ear ventilation in cleft patients. Furthermore, the research was focused on the growth parameters of the upper jaw and on the quality of breastfeeding.

Methods: 1. A study was conducted to monitor the concentration of hyaluronic acid in the middle ear secretion in relation to the later development of secretory otitis. HA was examined in middle ear fluid of 65 children subjected to cleft lip surgery. Patients were divided into 3 groups- favorable without further occurrence of the secret, moderate - one surgical intervention is needed and adverse - secretion had to be aspirated more than once and tympanosomy was performed . 2. A set of 52 impressions was created in 26 patients, always before lip and then palate surgery. Morphometric analysis and comparison with a group of healthy children and patients operated on for the first time at three months was then performed. 3. A study assessed the impact of the length of surgery and ventilation support, and duration of hospital stay on breastfeeding rates after early surgery.

Results: Patients with adverse and moderate course had significantly decreased

hyaluronic acid levels in middle ear fluid compared to patients with favorable course. Early surgery does not have a negative effect on the growth of the palate in any direction. The factors associated with early cleft lip repair do not affect breastfeeding rate.

Conclusion: Neoatal cleft surgery does not have a negative effect on the growth of the palate and does not affect breastfeeding rate. Hyaluronic acid concentrations in middle ear fluid are related to the course of the disease .

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Postoperative C-reactive Protein as a marker of oesophageal leakage in patient's after endoscopic Zenker's diverticulotomy

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Background: The endoscopic minimally invasive techniques are the treatment of choice for Zenker's diverticulum. The complication rate is low, however, major complications can rarely occur. The aim of this study was to evaluate the results and efficacy of endoscopic and open approaches and to determine whether postoperative C-reactive protein (CRP) serum levels can be used to detect early postoperative complications.

Methods: Patients who underwent transcervical or endoscopic surgical treatment for Zenker's diverticulum in years 2008-2021 at our department were included in this retrospective study. The patients postoperative status and treatment outcomes were monitored.

Results: Of the 101 patients enrolled, 83 patients underwent endoscopic cricopharyngeal myotomy (ECM) with CO2 laser and 18 patients transcervical myotomy and diverticulectomy (TMD). The average length of the diverticulum was 28.5 mm when treated endoscopically and 39,5 mm for open approach. The procedure time of the endoscopic technique was significantly shorter when compared to transcervical method ($p < 0.0001$). The median time to oral intake was

6 days for ECM and 10.5 days in the TMD group ($p=0.0007$). There was a 10.8% ($n=9$) and 16.7% ($n=3$) symptomatic recurrence rate and 3.6% ($n=3$) and 16.7% ($n=3$) major complications rate for ECM and TMD groups, respectively. The incidence of contrast leak (CL) evaluated by contrast swallow study was 10.8% (9 from 83 patients) in the ECM group. In the patients with CL the significant increase in postoperative CRP serum levels on postoperative day (POD) 2 and 3 was detected when compared to the control group. Two complications related to the oesophageal perforation occurred in patients with radiologically confirmed CL (pleural effusion, mediastinitis).

Conclusion: The endoscopic cricopharyngeal myotomy with CO₂ laser represents safe and efficient treatment of Zenker's diverticulum. The elevation of postoperative CRP serum levels over 123.8 mg/L on the POD2 and 98.8 mg/L on the POD3 may indicate presence of an oesophageal perforation.

Life-threatening complications of otitis media

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Introduction

The aim of the study is to analyse the epidemiology of life-threatening complications of otitis media in a cohort of patients treated for otitis media at the Dpt. Of Otorhinolaryngology at the University Hospital in Pilsen in 2012-2022.

Methods and materials

Of these, 9 817 adults (20.94 %) and 37 055 children (79.06 %) were treated for otitis media. A total of 1 030 patients (2.20 %) had to be hospitalized, of which 572 were children and 458 were adults. Surgical management was resorted to in 299 inpatients (29.03 %, resp. 0,64 %), of whom 198 were adults and 101 were pediatric patients.

Results

A total of 47 patients (0.10%) were treated for life-threatening complications of otogenic origin; 16 females, 31 males. Intratemporal complications occurred in 37

patients (33 mastoiditis, 2 the facial nerve palsy, 2 labyrinthitis), 8 patients had an intracranial complication (3 meningitis, 1 epidural abscess, 1 subdural abscess, 3 thrombosis of the cranial sinuses) and 2 patients had an extratemporal complication (1 Bezold abscess, 1 thrombosis of the internal jugular vein).

Conclusion

Early diagnosis, including imaging, prompt initiation of intensive antibiotic therapy, usually surgical management, and a multidisciplinary approach to these patients are essential for successful treatment of life-threatening complications of otitis media.

Biomarkers and micro-RNA in OSAS

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Introduction

Diagnosis of sleep apnea syndrome is a complex process demanding in terms of time, technical equipment and staff. For these reasons, many patients remain undiagnosed with the disease. This paper presents 2 clinical studies focused on the identification of biomarkers from a group of selected cardiac-specific and inflammatory glycoproteins and from a group of selected cardiac-specific microRNAs related to moderate and severe sleep apnea syndrome. The ideal biomarker for OSAS would be one that would allow us to determine the simple presence of the disease, possibly its severity, or to monitor the efficacy of the therapy.

Materials and methods

Authors present 2 prospective observational studies. The first study enrolled 146 patients with moderate and severe obstructive sleep apnea syndrome; the control group consisted of 100 healthy subjects. Serum levels of 3 inflammation-associated glycoprotein biomarkers and 3 cardiac-specific biomarkers were determined and compared in both groups. The second study enrolled 194 patients with moderate and severe OSAS; the control group consisted of 50 healthy subjects. In both groups, the levels of selected 3 types of microRNAs were

determined and compared.

Results

In the first study, statistically significantly higher serum levels were found in the group of OSAS patients for C-reactive protein, pentraxin-3 and high-sensitivity troponin I. In the second study, a statistically significant higher level of microRNA 499 was proven in OSAS patients compared to the control group, statistical significance was not proven for microRNA 1 and microRNA 133a.

Conclusion

We were able to prove statistically significantly higher levels and possible clinical potential of pentraxin-3 and microRNA-499 in patients with moderate and severe obstructive sleep apnea syndrome compared to healthy controls. Our results will be validated in both cases by a larger multicenter study.

FNAB and Bethesda classification in the tumours of the thyroid gland - a retrospective study

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Introduction

Thyroid nodule is a pathology with a prevalence of 19 - 68 % of the population, with a thyroid gland carcinoma proven in 7 - 15 % of these cases. Bethesda classification is a standardized system for cytology findings evaluation. The aim of our work is to compare predicted preoperative diagnosis including Bethesda classification and the final histology results, to define malignancy risk for Bethesda categories and to compare our findings with foreign studies.

Material and methods

A retrospective, observational, analytical study. A group of 180 patients (147 female and 33 male patients) with preoperatively known Bethesda category with performed operation on thyroid gland at the Dpt. of Otorhinolaryngology of the University Hospital in Pilsen in 2016 - 2017. We have compared an expected diagnosis with postoperatively known histology diagnosis and determined a risk of

malignancy rate for each category of Bethesda classification.

Results

In the group of our patients we have determined a risk of malignancy rate for Bethesda I. category as 14,29 %, for Bethesda II. as 14,29 %, for Bethesda III. as 15,79 %, Bethesda IV. as 10,64 %, Bethesda V. as 52,17 % and Bethesda VI. category as 100 %.

Conclusion

FNAB of thyroid gland nodules is a basic diagnostic method which facilitates categorization and stratification of a risk of malignancy in cytology findings. In our group of patients a risk of malignancy rate differs in Bethesda I. and II. category, the risk of malignancy rate is higher compared to the foreign literature.

Pre-operative diagnostics of parotid gland neoplasms and cervical lymphadenopathy: ultrasound-guided fine-needle aspiration or core needle biopsy?

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Introduction

Salivary gland tumours represent 6% of head and neck tumours, most commonly affecting the parotid gland. They are most often diagnosed in adults in the 45-50 age group, with an incidence of 0.53 cases per 100,000 persons per year. 80% of these tumours are benign, and 20% are malignant. Thus, pre-operative cytologic or histologic diagnosis is essential for selecting the type and scope of the surgical procedure for parotid gland tumours. An open biopsy is often contraindicated due to the possibility of malignant cell dissemination and may complicate the subsequent surgery. Fine needle aspiration biopsy (FNAB) is a widely used, safe, technically simple and inexpensive method with few complications. However, the effectiveness and interpretation of the results are still controversial. The sensitivity and specificity of this method in malignant salivary gland tumours are 65% and 97%, respectively, according to available meta-analytic studies. Core needle biopsy (CNB) is an effective diagnostic tool used mainly to diagnose

oncologic diseases in urology, hepatology, and breast. For the last ten years, it has also been used to diagnose tumours of the parotid glands.

Methods

Thirty-four patients with neck and parotid lumps with planned subsequent surgery were included in the prospective study from 1/2022 to 7/2022. Sixteen patients who did not undergo surgery were excluded from the study. FNA followed by a CNB was performed in all patients. We compared the cytology results of ultrasound-guided FNA with the histology results obtained by core needle biopsy in 18 patients.

Results

Of the 34 patients in whom FNAB and CNB were performed, 18 underwent surgery. Based on a diagnostic core needle biopsy, three patients were referred for conservative oncologic therapy, seven patients have not yet been operated on, one patient was diagnosed with DLBCL lymphoma, and five patients did not wish to undergo surgery based on benign histology. FNAB and CNB were performed in six patients from the lymph node, four from the tumorous infiltration of the neck and eight from the parotid gland. FNA was a non-diagnostic in 33.4 %, false-negative result in 5.5 %, FNAB did not match CNB in 44.4 %, and cytology result reached CNB histology in 55.6%. In comparing CNB with the definitive postoperative histology, 16.6% of the samples did not match, and 93.4% matched the final histology. No complication was recorded in performing both procedures.

Conclusion

In the pre-operative diagnosis of parotid neoplasms and cervical lymphadenopathy, CNB shows a statistically higher sensitivity in the pre-operative diagnosis of head and neck tumours than FNAB. CNB preserves tissue architecture allowing a more accurate diagnosis by utilization of a broader range of histochemical and immunohistochemical techniques than FNAB. Thus, CNB has a higher diagnostic value (e.g. tumour typing and grading) at the same rate of complications.

Experiences with the use of implantable hearing systems for the therapy of hearing disorders

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Introduction: In addition to conventional hearing aids, various (partly) implantable systems are available for the rehabilitation of different hearing disorders.

A distinction is made between hearing systems with direct coupling to the vibrating ossicular chain or directly to the round window of bone conduction hearing systems. These in turn can be divided into transcutaneous and percutaneous systems.

Material and methods: Various implantable hearing systems are used at the ENT clinic of the AMEOS Klinikum Halberstadt. Based on our experience, the advantages and disadvantages of the systems are to be presented.

Discussion: Depending on the underlying hearing impairment but also possible pathologies in the area of the ear, a decision can be made on the use of implantable hearing systems. The focus is increasingly on transcutaneously transmitting systems such as OSIA, Bonebridge or VSB. In our opinion, percutaneous hearing systems (Ponto, BAHA) only play a subordinate role.

Summary: The portfolio of implantable hearing systems makes it possible to treat almost any hearing disorder that cannot be treated with conventional hearing aids. The only problem is in the range of higher-grade hearing impairments between 50 dB and 70 (80) dB hearing threshold, since the fully implantable Carina hearing system is no longer available.

Pros and cons of endoluminal versus open cricotracheal resection for idiopathic subglottic stenosis.

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Idiopathic subglottic stenosis (iSGS) is an inflammatory disease of unclear etiology that causes obstruction of the central airway in the anatomic region below the glottis due to scarring. The estimated incidence is 1:400,000 and predominantly affects women between the third and fifth decade of life. The typical symptoms appear late in the course of disease, when the stenosis has obstructed more than 50% of the airway diameter.

In our more than 20 years of experience with this disease, it has proven beneficial

to first relieve patients of respiratory distress by endoluminal intervention and to establish a trustful doctor-patient contact before cricotracheal resection (CTR) should be planned in the interval. Only in one case we encountered re-stenosis after CTR, which could be treated quite well. All endoscopic interventions alone helped only temporarily. In an interval up to 5 years, recurrence occurred and forced us to open surgery.

Only in non-iSGS cases, e.g., granulomatosis with polyangiitis (GPA), remission occurred with drug therapy alone.

Deep Neck Infections - Retrospective Study at the Dpt. of Otorhinolaryngology, University Hospital Pilsen in 2017-2021

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Introduction

Deep neck infection is still a serious, life-threatening disease today. The aim of this study was to compare the results of the studied sample with data from the available literature.

Materials and methods

Patients (n=40) with deep neck inflammation treated in 2017-2021 at the Dpt. of Otorhinolaryngology of the University Hospital in Pilsen were included in a retrospective, analytical study. The study population consisted of 11 females (27.5%) and 29 males (72.5%). The average age was 51 years. Deep cervical infection was diagnosed in all patients by CT scan, which was supplemented by MRI in indicated cases.

Results

The average length of hospital stay was 20 days, of which 10 days were in intensive care. Of the 40 patients, 9 patients had mediastinal involvement (22.5%) and the surgery was performed in collaboration with a thoracic surgeon. In patients with mediastinitis, the mean length of hospital stay increased to 39 days, from which 23 days were in the intensive care unit. Surgical revision of the abscess was performed in all patients. 22 patients (55%) underwent one

operation, 10 patients (25%) required one reoperation and 8 patients (20%) underwent multiple reoperations. Despite all therapy, we observed a lethal course of disease in 3 patients.

Conclusion

Rapid diagnosis, intensive antibiotic therapy, radical surgical intervention, and a multidisciplinary approach are essential for the successful treatment of deep neck infections.

Sensorineural hearing loss after otosclerosis surgery

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Introduction: During otosclerosis surgery, the sensorineural component of hearing loss may worsen.

Goals: The goal of the work is to analyse the change in the sensorineural component of hearing loss (bony conduction) after otosclerosis surgery and to find predictive factors indicating permanent hearing damage due to surgical trauma.

Methods: The authors retrospectively processed data from 109 patients operated on at the Department of Otorhinolaryngology and Head and Neck Surgery, University Hospital Hradec Králové in the period 2013-2017. Pure tone audiometric examination before surgery, 2 days, 1 month and 1 year after surgery was evaluated.

Results: One year after otosclerosis surgery, hearing was improved in 94% (102/109) of patients. Deterioration of bone conduction > 5 dB (arithmetic mean at frequencies 0.5, 1, 2 and 4 kHz) was recorded on the 2nd postoperative day in 28% (30/109) of patients, one year after surgery it persisted in 9% (10/109) patients. In the analysis of individual factors, we demonstrated a higher risk of permanent bone conduction loss in patients with early postoperative decline in higher frequencies (2 and 4 kHz), in elderly

patients over 40 years and in patients with preoperative bone conduction loss. Revision surgeries were similarly successful in improving hearing as primary surgery, not increasing the risk of postoperative decline in bone conduction.

Conclusion: In some patients, the sensorineural component of hearing loss may deteriorate due to surgical trauma, which is usually only temporary and is affected by the patient's age and the condition of bone conduction before surgery.

FNAB-based diagnostics and management of pleomorphic adenoma

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Background: Pleomorphic adenoma (PLA) is the most common tumour of the parotid gland. Its correct preoperative diagnosis is important for its management, most often based on fine needle aspiration biopsy (FNAB). Extracapsular extirpation is possible in small and favourable located tumours. Due to possible late recurrence, longer-term follow-up is appropriate.

Materials and methods: We conducted a retrospective study of patients treated for parotid gland mass between 2010 and 2016. The first group consisted of patients with preoperative FNAB showing PLA and the second group was made up of patients with definitive PLA histology. We also compared complications and recurrences in individual surgical approaches and evaluated the average recurrence time of PLA.

Results: 165 patients had FNAB with the result of PLA and underwent surgery. The definitive histology corresponded to the preoperative diagnosis in 159 cases (96,4 %). On the other hand, 179 patients with definitive histology showing PLA were operated and we correlated this finding with preoperative FNAB. The FNAB result corresponded to the definitive histology of PLA in 159 cases (88,9 %). The counted sensitivity and specificity of ultrasound guided FNAB for the diagnosis of PLA were, respectively, 88.8 % and 96.2 %. The accuracy of this method was 92.3 %. Extracapsular extirpation was performed in 32 cases with 1 temporary facial

nerve palsy and no recurrence of PLA. The average recurrence time of PLA is 101 and 92 (for recurrences sent from another hospital) months.

Conclusions: Ultrasound-guided FNAB is a safe, accurate, and important method in PLA diagnosis. Extracapsular dissection of PLA is a conservative treatment modality with minimal risk to the facial nerve (statistically significant) and low probability of recurrence. The recommended follow-up period for patients with PLA is at least 10 years.

Sleep apnea syndrom in childhood

Ondrová M.

Obstructive sleep apnea syndrom (OSA) affects about 3-5 % of the child population. The evaluation of the polysomnography and the distribution of the degrees of severity OSA is different in childhood and in adults. The necessary is ENT examination because OSA is cause mainly by hypertrophy of palatine tonsils and adenoid tonsil. Very important are parent´s anamnestic data often including audio or video recording of home sleeping with symptoms of OSA. But the only objective examination is polygraphy and polysomnography. Many children have apneas during sleep and snoring in anamnestic data. Others sleep apnie syndroms are problems with swallowing food, nocturnal enuresis, tiredness, hyperactivity, mumbling and snuffle. Proper diagnosis is very important for subsequent treatment. The main treatment of OSA in childhood is surgical. Recommended method of treatment for hypertrophy of the lymphatic tissue is a both side tonsillectomy and adenoidectomy. Bilateral tonsillotomy offers the possibility to use a less radical surgical treatment with the same therapeutic effect as recommended bilateral tonsillectomy. Reduction of radikality does not change the effect of OSA treatment, while maintaining the functional part of the palatine tonsils so important for correct immune system development. Three case reports.

Emerging therapies in the medical management of Allergic fungal rhinosinusitis

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Over the past 4 decades, allergic fungal rhinosinusitis (AFRS) has become increasingly defined. As clinical evidence of AFRS accumulated, controversy regarding its etiology, pathogenesis, natural history, and appropriate treatment naturally emerged. Despite this, many of these controversies remain incompletely resolved. Treatment involves functional endoscopic sinus surgery (FESS) followed by medical management that includes allergen immunotherapy, topical and systemic corticosteroids, and more recently some studies point towards using manuka honey, monoclonal antibodies, and antimicrobial photodynamic therapy, hydrogen peroxide and betadine rinses and others with close follow up post-operatively and coordination of treatment by both medical and surgical physicians as a team. In this article, we review current data regarding the roles of various nonsurgical forms of therapy.

Comparison of examination methods used in the Universal Newborn Hearing Screening in Slovakia - Is the two-steps approach more effective

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Background/Introduction: The incidence of bilateral sensorineural hearing loss (SNHL) among newborn babies is estimated to be approximately 1-2 in 1.000 in the European region. In many countries the Universal Newborn Hearing Screening (UNHS) is used, including Slovakia. The aim of our study was to compare the efficacy between one step testing with transient evoked otoacoustic emissions (TEOAE) and two steps with TEOAE and automated auditory brainstem response (aABR), and to investigate their differences in referral rate, cost effectiveness and the accurate detection of SNHL.

Methods: Neonates (322) referred to our Clinic after a „refer“ result on the TEOAE1 in the neonatology department from 01/2019 to 12/2020. TEOAE (2) re-

screening was performed along with an aABR test, both in one session. Patients with a pathological outcome were further tested by open field VRA and/or ASSR methods to obtain a definitive diagnosis.

Results: One hundred forty three (44.41%) out of 322 patients (131 Female, 191 Male -no statistical significance) were designated as a “refer” on the TEOAE2 test. Of these, 57(39.9%) failed the aABR test. One child with a pass result on the TEOAE2 test failed the aABR. Of the 143 with non-pass result on the TEOAE2, 39 (27.3%) had definitive SNHL. Of the 58 who failed the aABR, 39 (67.2%) had SNHL ($p = 0.000$). The average age of SNHL diagnosis, was 7.5 months.

Conclusion: The efficacy of TEOAE performed at the neonatology department is lower(12.1%) compared to TEOAE performed at a clinical ENT setting (27.3%). The efficacy of the aABR method in the diagnosis of mild to severe hearing loss in patients after a “refer” result in OAE is 67.2% . A potential application of a two steps diagnostic approach during the first step of the UNHS could lead to a reduction of second step patients by up to 82%. Re-examination, transportation and psychic cost for false positive cases should be taken into consideration.

Transoral robotic surgery for obstructive sleep apnea syndrome - a review

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Introduction

Obstructive sleep apnea syndrome is a respiratory sleep disorder characterized by repeated episodes of partial or complete obstruction of the upper airway that occur during the night. There are different ways how to treat those patients - invasive, with surgery, or non-invasive, with usage of CPAP or BiPAP followed by weight loss. Except the traditional surgical approaches, there is a modern possibility to use transoral robotic surgery - TORS. The first robotic surgery for OSAHS was carried out in May 2008. Nowadays, this surgical approach is used in some specialized ENT departments and we also plan to use TORS for selected patients.

Methods

Using PubMed and Research Gate we summarize the worldwide knowledge and experience with TORS in OSAHS in a short review.

Results

The most useful procedure is the tongue base reduction of both sides for the patients with the hypertrophic lingual tonsil or the supra-hyoid horizontal epiglottectomy for those who have an obstruction in this region proved by drug-induced sleep endoscopy. The approximate rate of success, defined as 50% reduction of pre-operative AHI and overall AHI less than 20 events per hour, is achieved in up to 75 to 80% of patients. To achieve the best possible results, for this technique, we must choose the right patients who will profit from this treatment. According to published studies, TORS was associated with an increased risk of prolonged hospital stay (33% vs. 25%) but not more or different complications.

Conclusion

TORS for the treatment of OSAHS appears to be a promising and safe modern procedure. Of course, it is necessary to select patients who could benefit from this modern treatment carefully. In most studies, it was declared, that both techniques provide comparable functional results, but the quality of living is even better while using TORS than the standard surgical approach.

High-sensitivity FEES

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Introduction

Flexible endoscopic evaluation of swallowing (FEES) is an instrumental procedure used in clinical practice to develop a comprehensive understanding of swallowing safety (penetration-aspiration) and efficiency (pharyngeal residue) in individuals with suspected oropharyngeal dysphagia. Narrow band imaging (NBI) is an endoscopic method used for the diagnosis of mucosal changes. The method helps to see the mucosal surface with greater contrast, which is achieved by using a specially filtered light. By coloring the bolus with green food

colorant and using NBI, the bolus will change its color from green to red. The combination of NBI and FEES can provide a more detailed investigation method in patients with a difficult laryngoscopic finding.

Methods

We started to use High-sensitivity FEES in 2019 in some difficult cases, where we suspected the detection of a minor, but relevant penetration or aspiration. The flexible laryngoscope was passed transnasally. The tip of the endoscope was positioned within the oropharynx to visualize the pharynx, larynx, and subglottis before, during, and after all swallows. During FEES, we used white light from pre to postdeglutitive endoscopy. During the postdeglutitive phase, the illumination was switched to NBI mode.

Results

When performing a high-sensitivity FEES in dysphagia patients, the green-colored bolus turns bright red, with a contrast enhancement. Even small amount of penetrated bolus parts and the thin diffuse secretion layers can be visualised very well.

Especially when the bolus of liquid was very quick aspirated - we could nicely see the red liquid deep in the subglottic area.

Conclusion

The combination of NBI and FEES can improve clinical diagnosis in case of questionable penetration and aspiration. This method is very helpful to detect smallest amounts of bolus, due to the striking contrast of NBI illumination, when using green food color.

Thyroid surgery under local anesthesia in selected group of patient our experience.

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Objective: To find out the safety and feasibility of Thyroid surgery in selected

group of patient under local anesthesia. Aim of study was to share our experience in case of haeme and total thyroidectomy in ENT foundation hospital and different clinics of Dhaka, Bangladesh.

Materials and Methods: All the patient was admitted in the hospital clinically significant goiter selected for surgical treatment (2%) xylocane with adrenaline was used for infiltration anesthesia. Before the operation patient had received 1 mg per kg body weight intravenous pathedin slowly Diazepam 5mg iv. In case of need in selected group of patient iv ketorlac sometimes need.

Result: Haeme thyroidectomy performs there is no remarkable complication (Intra and post operative) Except 3 case (three patient postoperative scar two case Reactionary Haemorrhage mean duration of procedure about 90 minutes follow up medical stay was three days. all the patient were good general condition on the day of discharge from the hospital.

Conclusion: Surgery for thyroid swelling in selected group of patient may be alternative where General Anesthesia is not available and in patients contra indicated for medical reason.

Impact of Smoking on the survival of patients with high-risk HPV positive Head and Neck Squamous Cell Carcinomas

Seras D.

Introduction: Smoking and human papillomavirus (HPV) are both distinct risk factors for head and neck cancer. Our goals were to identify different high-risk HPV genotypes in head and neck squamous cell carcinoma (HNSCC), to perform a survival analysis and to assess how two independent prognostic factors (smoking and HPV+ status) interact with each other regarding survival.

Methods: Retrospective study between 2011-2019 in IPO-Lisboa. Kaplan-Meier method was used to estimate survival; the log-rank test to compare survival between cohorts and cox proportional hazards for multivariate analysis of clinical variables (age, sex, tobacco and alcohol consumption, treatment, TNM stage and 2nd tumor). Patients lost to follow-up (n=10) were excluded from the survival analysis.

Results: From the 226 biopsy samples of HNSCC tested for HPV, a prevalence of 39% (n=88) was found. The high-risk genotypes were the most frequently detected: HPV16(65%), HPV18 (4%) HPV26 (1%), HPV35 (4%), HPV51 (1%), HPV53 (2%), HPV56 (1%), HPV59 (2%). The mean disease-specific survival was 6,62 years (CI 5,91-7,33) and the overall survival was 5,71years, CI 4,97-6,46).

Regarding prognosis in HNSCC HPV positive patients we compared two groups: smokers (n= 53) versus non-smokers (n=25). Survival rate for non-smokers was higher but nonsignificant (82,8% vs 72,4%, p=0,311). Furthermore, clinical covariates were similarly distributed between both groups, except in the case of male gender, age and alcoholic consumption habits.

Overall, the clinical variables did not significantly affect survival, except for the N in the case of smoking group. N2b-N3 had a 14 times higher death risk (p=0,011)

Conclusion: N stage was the only clinical variable with significant impact on patients' survival. Although smoking is associated with a lower survival rate in HPV+ patients, this isn't significant. In addition, it was also possible to recognize that gender, age and drinking habits showed significant differences in relation to smoking habits.

Nuances of Endoscopic Approach of Frontal Osteomas

Seras D.

Introduction: Fronto-ethmoidal osteomas are benign tumours that occasionally cause symptoms, related to size, extension and relationship with the surrounding structures. Symptoms can range from headache to rhinorrhea and anosmia. Their management represents a unique challenge.

Objective: Descriptive study: 3 cases of frontal osteomas and discussion of sole endoscopic approach nuances.

Results: Case 1: Female, 55 years old. CT scan showed an incidental finding: osteoma-like lesion in the right frontal recess with 1 cm of diameter (grade I). The patient was submitted to an anterior ethmoidectomy/ DRAF2a that allowed total removal of the osteoma.

Case 2: Female, 57 years old. CT scan showed an osseous lesion obliterating the frontal isthmus with a dimension of 1,4×2,2×2,0 cm (grade I). Total resection was

achieved by type II maxillary sinusotomy, anterior ethmoidectomy and DRAF2b. Case 3: Male, 45 years old, presented with a headache/ facial pain and rhinorrhea. The CT scan showed a lesion with 3,7x2x2,4 cm (grade III). The osteoma was grounded in the frontal sinus with relation with anterior ethmoidal artery and anterior cranial fossa. Patient underwent a bilateral anterior ethmoidectomy with anterior ethmoidal artery ligation followed by Draf 3 approach.

All patients underwent a purely endoscopic approach and no serious complications were observed after surgery. There is no evidence of recurrence during follow-up.

Discussion and conclusions: Currently discussion regarding the best surgical approach is held by variables like location and anatomical relations which are the cornerstone on deciding between a purely endoscopic, or external approach. In our cases, an endonasal approach was feasible in all cases even in frontal lodged osteomas.

TORS / TransOralRoboticSurgery/ approach in removal T1-T2 carcinoma of the tongue base and supraglottis

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TORS is labelled as a higher level of endoscopic surgery, which belongs to minimally invasive surgical procedure. In comparison to the external approaches, TORS offers the advantages as minimum morbidity and improved functional and cosmetic outcomes.

TORS allows the surgeon to provide patients with procedures equivalent to conventional transoral or external approaches.

The higher precision of the operation is enabled by enlarging the view of the surgical site and by the fact that the robotic system compensates for the inevitable natural tremor of the surgeon's hands. Moreover, controlling the tools can be considered intuitive. Perfect orientation in the surgical site, high resolution and clarity of the 3D HD camera and 4K pictures and maximum

flexibility of the instruments (EndoWrist) make the TORS method ideal for precise and undamaging operations in the pharynx and supraglottis areas. TORS reduces the limitations of conventional surgery, such as large incisions that are demanding both for the patient and the surgeon.

TORS method is perfect for precise and undamaging operations in the pharynx and supraglottis areas. TORS reduces the limitations of conventional surgery, such as large incisions that are demanding both for the patient and the surgeon.

INDICATIONS of Transoral Robotic Surgery - TORS - is mainly applied to the treatment of epithelial squamous cell carcinomas (SCC) in the oropharynx, located at the tonsil, tongue base, supraglottis and hypopharynx . The conditions most responsive to TORS treatment are encapsulated primary tumours at the T1 or T2 stage (T3 experienced hands) according to the TNM classification.

Advantages of TORS: Reduction or elimination of chemoradiation therapy ◇
Reduction in extent of cosmetic deformities ◇
Reduction or elimination of the need for intraoperative tracheostomy ◇ Reduction of blood loss at surgery ◇ Reduction of postoperative pain ◇ Reduced risk for developing wound infection ◇ Quicker return of speech and swallowing functions ◇ Shorter recovery time ◇ Shorter hospital stay overall.

Sialendoscopy in patients with juvenile recurrent parotitis

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Introduction

Juvenile recurrent parotitis (JRP) is defined as recurrent parotitis in children (typically 3- 15 yo). It is characterized by painful swelling sometimes associated with the fever and it is usually unilateral. The antibiotic therapy alone or conducted with sialendoscopy and irrigation of the affected salivary gland can be used as conservative therapeutic method in JRP treatment.

Methods

Children with clinical symptoms of JRP were enrolled into retrospective study from April 2011 to December 2021. All patients were repeatedly treated by antibiotics. Each patient underwent diagnostic sialendoscopy with corticoids irrigation. The intraductal corticoids installation were performed one per week in 6 - 8 weekly period. The patients were followed up minimally 3 - 6 months after therapy. The effectiveness of therapy was analyzed.

Results

Twenty-one patients (4 - 15 yrs) with JRP were included in the study. Sialoendoscopically was confirmed chronical sialodochitis of Stensen's duct in all patients. After sialendoscopy and period of intraductal corticoid instillations the patients were observed 16 - 110 weeks. Reduction of frequency and intensity of salivary gland swelling was recorded in 18/21 (85.7%). In 14/21 (66.7%) patients were disappeared all problems, any swelling was registered after complete therapy. In 4/21 (19.0%) patients the frequency of parotid gland's swelling was significantly reduced. In 3/21(14.3%) patients the swelling persisted in the same frequency or the effect of therapy was just temporary and in 2 cases second sialoendoscopy with local corticoid applications was indicated and performed with partial reduction of swelling.

Conclusion

Sialendoscopy with prophylactic intraductal corticoids irrigation seems to be an effective therapy in patients suffered from JRP.

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Classification of parotid salivary gland tumors according to ESGS (retrospective study)

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Introduction

European Salivary Gland Society (ESGS) proposed classification system that includes the size and localization of tumor in the parotid gland. Parotidectomies are further classified according to the levels removed, as well as the extraparotid structures ablated.

Methods

Retrospective study includes 245 patients who underwent surgery in Department of Otorhinolaryngology and Head and Neck Surgery in Hradec Kralove from 1/2015 to 1/2022. The condition for inclusion criterias was a primary surgery. We evaluated gender and age of patients, the side, localization and size of the tumor (ESGS), imaging methods, type of resection and correlation FNAB with histopathology.

Results

There were 245 patients in our group (127 men, 118 women) with median age 58 years. The most frequent imaging method was ultrasonography (USG) (58%), USG with computer tomography (CT) in 24%. Magnetic resonance was indicated in the case of unclear finding, together with USG (14%) or USG + CT (4%), especially if we suspected malignancy or in the case of unclear relationship to the deep lobe of parotid gland or surrounding structures. The most frequent size of tumor was category II (less than 3 cm in superficial lobe), the most frequent type of resection was extracapsular dissection (ECD II) 45% and parotidectomy (I+II) 21 %. From benign tumors the most frequent was pleomorphic adenoma (36.3%) and cystadenolymphoma (33.4%), from malignant tumors acinar cell carcinoma (3.3%), mucoepidermoid and adenoid cystic carcinoma (both 2.4%).

Conclusions

Parotid gland tumors are heterogenous group in occurrence of different histopathological variants. In our study the most frequent size of tumor was category II due to ESGS classification that corresponded to the most common type of surgery - ECD II. The most common mistake in cytologic examination is „underestimation“ of mucoepidermoid carcinoma (low - grade), and „overestimation“ of Warthin tumor with squamous cell metaplasia.

The risks of epistaxis relapse related to the initial methods of treatment

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Introduction

This paper assesses the various factors which can be connected with the relapse of epistaxis. The factors under consideration were: age, gender, localization of the source of bleeding, weather season, doctor's expertise (L1-L3) and the initial method of treatment.

Materials and methods

It is a retrospective, analytical and observational study with 1227 patients with epistaxis treated at the Dpt. of otorhinolaryngology, University Hospital in Pilsen between 2018 and 2019. 499 patients met the admission criteria, 223 of which were female and 226 were male. Average age was 56.9 years old. Excluding criteria were: age below 18 years, anticoagulant or antiplatelet therapy, tumor in the nasal cavity, hematological diseases or surgery of the nasal cavity in previous 30 days.

Results

Having assessed the above mentioned sample, we identified bleeding relapse in 49 patients (10.91%). There were some methods that were proven to be statistically significant when reducing the relapses. These were: source of bleeding in the anterior part of the nasal cavity ($p=0,0064$), usage by electrocoagulation ($p=0,061$), doctor's expertise L1 ($p=0,0147$). On the other hand, the below factors were statistically significant in statistical relationship to higher risks of relapse: bleeding in the posterior part of the nasal cavity ($p=0,0084$), the use of anterior nasal packing in the instance of treatment ($p=0,0225$), doctor's expertise L3 ($p=0,0019$). Age, gender and weather season were all found statistically insignificant.

Conclusion

Our study concluded that statistically significant causes for bleeding relapse were: localization of the source of bleeding in the posterior part of the nasal

cavity, use of anterior nasal packing and doctor's expertise L3. On the other hand, statistically significant causes lowering the risk of bleeding relapse were: use of bipolar coagulation, localization of the source of bleeding in the anterior part of the nasal cavity, doctor's expertise L1. The remaining factors, gender, age and weather season, were deemed as statistically insignificant.

Evaluation of the Effectiveness of Positional Therapy of Obstructive Sleep Apnea During Drug-Induced Sleep Endoscopy

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Objectives

Positional therapy of obstructive sleep apnea (OSA) is usually indicated for selected patients as a secondary treatment method when other therapies have failed. Today, there is a wide range of positional therapy modalities. However, none of them deals with its direct effect on the individual areas of the upper airway. The aim of the study was to evaluate the effectiveness of positional therapy of OSA during drug-induced sleep endoscopy (DISE) and to monitor which areas respond best to therapy.

Methods

Patients with OSA over 18 years of age underwent the examination. DISE was performed under the supervision of an anesthesiologist in the operating theatre using short-term intravenous hypnotics. At first, the patient was in the supine position, after 10 minutes he was turned to the right side. The VOTE classification (Kezirian et al.) and the PTLTbE classification (Veer et al.) were used to evaluate the results (both in the back position and in the side position). The findings were compared.

Results

At the Department of Otorhinolaryngology and Head and Neck Surgery DISE was performed in 55 patients from 1/2020 to 6/2022. Obstruction was most often observed at the soft palate, least often was epiglottic collapse. The best effect of

position therapy on the right side compared to position on the back was in the case of laterolateral obstruction of the oropharynx, change from complete obstruction to none was in 75% of patients. The worst effect was observed on concentric soft palate obstruction, with complete obstruction persisting on the right site in $\geq 80\%$ of patients.

Conclusion

During DISE, the effect of position therapy of OSA can be visualized. It can be expected that this examination will find application in clinical practice due to its simple design and will contribute to interdisciplinary cooperation in the treatment of OSA.

Second primary tumors following head and neck cancer: a Tertiary Care Center study

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INTRODUCTION

Patients with head and neck cancer (HNC) are at a high risk of second primary tumors (SPT), located mainly in the upper aerodigestive tract, and representing a major cause of long-term morbidity and mortality.

METHODS

We conducted a retrospective unicentric cohort study, using medical records of patients diagnosed with HNC between January 2014 and July 2021. We aim to analyze the characteristics of SPT following an index HNC.

RESULTS

We studied 409 patients (345 males and 64 females), with a mean age of 61 years. Among the total cohort, 72 patients (17.60%) developed a SPT: 35 (48.0%) were synchronous (with a median time to diagnosis of 1 month), while 37 (51.40%) were metachronous (with a median time to diagnosis of 36 months). Synchronous tumors were most commonly found in lung and oesophagus (62.90%), whereas metachronous tumors were mainly located in lung and oral cavity (43.20%). Index tumor and SPT location were not found to be

associated ($p=0.086$). The incidence of a third primary tumor was observed in 17 patients (4.33%), within a mean time of 3.8 years following the primary tumor. We found a significant association between alcohol abuse and the presence of synchronous tumors ($OR=3.131$; $p=0.004$), however abstinence after diagnosis was not associated with a reduction in metachronous tumors prevalence ($p=0.176$). 243 (60.15%) patients underwent radiotherapy, whereas 161 (39.85%) were not exposed to it. An increase in metachronous tumors prevalence was seen in radiotherapy group (11.5%) in comparison to non-radiotherapy group (5.90%) ($p=0.052$). Of the 96 patients with oropharyngeal cancer, 13 were HPV-positive, 53 HPV-negative and 30 were unknown for HPV. There was a strong association between female sex and HPV-positive status ($OR=12.25$, $p < 0.001$), but HPV-status was not associated with SPT prevalence ($p=0.114$).

CONCLUSION

In conclusion, patients with HNC should have a closed tailored surveillance to detect and manage a second neoplasm in time.

Salvage Intratympanic Corticoid Therapy of the SSHL

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Objective: To find the success rate of salvage intratympanic corticotherapy of the SSHL in patients unresponsive to standard peroral therapy.

Methods: A case-control retrospective study included subjects who were examined for sudden sensorineural hearing loss at our department between July 2020 and June 2022 and in which standard peroral corticotherapy lead to little or no success. A total of 14 patients, who underwent a salvage intratympanic corticoid application, were enrolled. Audiometric evaluation at frequencies of 250-4000 Hz was performed before and after the treatment. We considered a success an improvement of more than 10 dB at a minimum of 2 impaired frequencies. Furthermore, the data were statistically evaluated and compared to the data of the control group of 10 patients who did not undergo salvage

treatment.

Results: Out of 14 subjects, 6 (43%) met the set criterion of improvement of more than 10 dB. Statistical analysis, however, discovered no significant difference between audiometric data before and after the treatment. The same result was found in the control group or when compared these groups against each other. Regarding the possible complications, we observed only persistence of the tympanic membrane perforation, which occurred in 2 patients (14%). Other complications, such as allergic reaction, otorrhea or acute otitis media were not observed in any subject.

Conclusions: According to the AAO-HNS guidelines on SSHL, there is a possibility of salvage treatment, either intratympanic corticoid application, or hyperbaric oxygenotherapy. Even though we did not prove statistically significant difference between audiometric data before intratympanic application and after that, 6 patients met the 'objective' criterion of improvement of at least 10 dB. We deem it is up for discussion whether some sort of salvage therapy, such as intratympanic corticoid application, should be offered to those patients unresponsive to standard peroral treatment as it represents the ultimate possible option.

Dupilumab for the treatment of chronic rhinosinusitis with nasal polyposis

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Introduction: Chronic rhinosinusitis with nasal polyps (CRSwNP) affects 1-2.5% of the population and is associated with significant adverse effects on quality of life (QoL). CRSwNP is strongly correlated with (late onset) asthma with 30-70% of the CRSwNP patients having asthma. Health-care spending in rhinosinusitis is high, especially because of indirect costs.

Areas covered: In the last years, the recognition of endotyping as an essential presumption to precision medicine has significantly changed the integrated care pathways in the treatment of chronic rhinosinusitis. Dupilumab is the first biological available for the treatment of CRswNP, since late 2019. Treatment with

dupilumab results in a significant improvement of QoL (measured as SNOT-22), rhinosinusitis disease severity, symptoms of rhinosinusitis, and especially sense of smell, nasal polyp score, Lund-Mackay CT score, and asthma outcomes (ACQ5 and FEV1) compared to placebo.

Conclusion: At this moment, the high cost of the treatment requires careful patient selection and within the EUFOREA and EPOS2020 context, experts have tried to give guidance based on today's data. We now need trials evaluating which patients benefit most from treatment with biologicals and in which patients the treatment is cost-effective.

Dysfunction of the facial nerve following surgery for tumors of the parotid gland - classification of the facial nerve function and strategies of reanimation surgery

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Introduction

Paresis of the facial nerve (CN VII) is one of the feared complications of parotid gland surgery. Even in the case of anatomically intact CN VII, we observe postoperative dysfunction in some patients. In the literature we encounter a number of defined prognostic factors, clinical classifications and treatments. The aim of the presentation is to give a comprehensive overview of this topic.

Methods

We evaluated a set of patients operated for parotid gland tumors in the period 2018-2022. During the specified period, 98 patients underwent parotid gland surgery (extirpation: 4, superficial parotidectomy: 69, total parotidectomy: 25; revision surgeries: 7/primary surgeries: 91). We proceeded to the resection and reconstruction of CN VII in 11 cases due to the nerve infiltration by a malignant tumor. In the remaining cases (89%) CN VII was in continuity.

Results

Postoperative dysfunction of CN VII is reported in 39% of patients undergoing parotid surgery. The main factors influencing the result included extent and localization of the process, relationship to CN VII and experience of surgeon. Clinical classifications and electrophysiological methods are mainly used for evaluation. Objective evaluation, including video analysis, are newly implemented. There is no clearly defined procedure for dealing with iatrogenic injuries and forced resection CN VII. Purposefully performed reanimation surgery gives a good outlook for correcting the functional deficit.

Conclusion

Modern technologies using image recording and its 3D analysis including machine learning can more accurately detect mild changes in reinnervation and compare them over time between different clinical sessions. Therefore, the development of a more accurate and automated method for assessing the degree of impairment of facial muscle mobility is a prerequisite for effective diagnosis and subsequent treatment (rehabilitation, reanimation surgery) for facial injury.

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