MEETING REPORT

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1. Spontaneous silent sinus syndrome (imploding antrum syndrome). Case series of 16 patients

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Introduction: Silent sinus syndrome (SSS) is a spontaneous, asymptomatic collapse of the maxillary sinus and orbital floor associated with negative sinus pressures. It was first described by Soparkar et al. (1) and is also known as the imploding antrum syndrome. It typically presents with a 'sunken' eye (enophthalmos), asymmetry of the level of the eyes (hypoglobus) and downward bowing of the orbital floor causing a reduction in the size of the maxillary sinus. Primary or spontaneous SSS is idiopathic occurring in all age groups and develops over a period of days to months. Secondary SSS can occur in cases of orbital trauma, chronic rhinosinusitis and nasal trauma and has been reported to occur in less than 1% of patients treated with orbital decompression for thyroid eye disease (2). It is a rare condition and to date only 105 cases have been reported in the literature (3). We report the second largest case series of 16 patients with spontaneous SSS and describe their clinical and radiological features and surgical management.

Methods & Materials: A retrospective analysis of clinical notes and radiological data of 16 patients with spontaneous SSS between 1999 and 2009 was reviewed at the Royal National Throat Nose and Ear Hospital. All patients were initially referred from Moorfields Hospital with SSS without prior trauma or orbital decompression surgery.

Results: Sixteen patients presented with spontaneous SSS. Age range was 14-79 yrs (median 38 yrs). Duration of symptoms ranged from 3-36 months. Patients presented with 1 to 4 mm unilateral enophthalmus and up to 4mm of hypoglobus. Interestingly 10 patients had lateralisation of their middle turbinates, which may have contributed to maxillary ostium obstruction and 9 patients had a septal deviation to the affected side. Six patients had a previous history of acute rhinosinusitis but none within six months of presentation. CT scan findings of all cases demonstrated a depression of the orbital floor with contraction and opacification of the maxillary sinus.14 patients required endoscopic sinus surgery to re-establish maxillary sinus drainage. The remaining 2 patients settled with conservative management of nasal steroids and decongestions. A second staged orbital silastic implant was performed in one patient in which clinical evident enophthalmus and hypoglobus persisted after six months. Follow up ranged from 6 months to 4 years with a mean of 2.6 years. An improvement in enopthalmus and hypoglobus was seen in all surgically treated patients with a mean improvement of 2.2 mm and range 0.5-4 mm.

Discussion: Spontaneous SSS is a rare condition characterised by unilateral enophthalmus and hypoglobus with radiological findings of ipsilateral depression of the orbital floor and reduction in volume and opacification of the maxillary sinus (4). Pathogenesis of this condition remains unclear but prolonged congestion of the ostiomeatal complex resulting in negative pressure in the maxillary sinus is a likely aetiological component as demonstrated by 63% of our patients having lateralisation of their middle turbinates. Kass et al. (5) has demonstrated negative pressures of -8.4cm H_2O in manometric studies of maxillary antrum pressures in ostial occluded chronic maxillary atelectasis. This can theorize for thinning, demineralisation and subsequent shrinkage of the maxillary sinus – imploding antrum. However it must also be postulated that medialisation of the middle turbinate may in fact be a secondary effect. A one way pneumatic valve mechanism within the ostiomeatal complex leading to atelectasis of the maxillary sinus has been proposed by Bossolesi et al. (6) Endoscopic sinus surgery remains the gold standard for treatment for SSS. A two-staged orbital repair is sufficient

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not to warrant prosthetic insertion in all but one patient in our case series. Resolution takes place over the succeeding 6-12 months so immediate ophthalmic action should be deferred for at least 6 months.

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2. Olfactory dysfunction in allergic fungal rhinosinusitis

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Background: Allergic fungal rhinosinusitis is a chronic disease, which requires sustained medical therapy following endoscopic sinus surgery. However patients appear to complain of olfactory dysfunction in spite of apparent control of their disease based on endoscopic assessment of their sinus cavities. This persistent complaint is perceived as a significant detriment to their quality of life [(1)].

Objective: This study aims to correlate subjective reporting of olfactory function with endoscopic staging and performance on the Sniffin' Sticks test in patients with allergic fungal rhinosinusitis.

Methods: Forty-two patients with allergic fungal sinusitis seen in a tertiary rhinology clinic were recruited to undergo olfactory testing following routine endoscopic follow up. Patients were included if they met the modified diagnostic criteria for allergic fungal rhinosinusitis (immunocompetence, polyps, eosinophilic mucin, CT findings and positive fungal stain) [(2)]. The Sniffin' Sticks test [(3)] was used to derive their TDI score and a visual analogue score was used for their perceived olfactory ability. Patients were also asked to complete a short form 36 questionnaire for quality of life scores. An endoscopic staging score was given for each patient [(4)].

Results: Eighteen male and 24 female patients with allergic fungal rhinosinusitis underwent olfactory testing over the course of 2 months; 36 of these completed all parts of the assessment. The age range of the patients was 25 to 71 (mean 51). The mean TDI score was 19 showing a poor level of function in this group. There was a significant correlation between patients' performance on the Sniffin' Sticks and endoscopic staging and with their reported olfactory ability ($p < 0.001$).

Conclusion: All patients with significant sinonasal inflammatory disease should receive evaluation with olfactory testing and be treated on their merit in order to lessen the impact on their quality of life.

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3. Patient perceptions of appropriate first aid measures in epistaxis management and the effect of brief interventions

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Introduction: Epistaxis is a common ENT presentation affecting 7-14% of adults during their lives and resulting in an annual rate of admission to ENT units in the UK of 30 per 100,000 per annum [(1)]. Despite the frequent nature of this presentation, the optimal first aid measures for epistaxis may not be well understood by the general public [(2,3)]. This study was designed to investigate the public's understanding of appropriate first aid measures in the control of epistaxis.

Aim: This study was designed to establish the contemporary first aid management of epistaxis by the general public.

Methods: A questionnaire was designed and administered to ENT and General Practice patients in the outpatient setting. Patients were questioned as to the appropriate first aid measures in epistaxis. Questions related to the site of compression of the nose (hard, bony vs. soft, fleshy part of the nose), what position to adopt during epistaxis, how long they should wait for before seeking medical attention, alleviating and aggravating factors and whether they had previously consulted a doctor for epistaxis. Patient were scored accordingly and each given a mark from 0 (worst) to 6 (best).

Results: Complete responses were received from a total of 285 individuals. The overall mean score was 3.5 out of a total of 6.
Twenty-nine participants in the study had previously seen a doctor for epistaxis. Of these the mean score was 3.42. This compared with a score of 3.55 for patients that had never sought medical advice for epistaxis. This difference was not statistically significant (t-test; p=0.79).
Of note, 194 of the 285 participants (68%) thought that the hard bony portion of the nose should be pinched in epistaxis. Of these, 18 had previously consulted with a doctor for epistaxis (14 GP, 3 ENT, 1 A&E). Of the 29 participants who had previously consulted with a doctor for epistaxis, 18 thought that the bony part of the nose should be pinched in epistaxis. Many patients were unsure how long the nose should be pinched before seeking medical attention.

Conclusions: The study will help us to find better ways of educating patients in epistaxis first aid management. The questionnaire will also be able to better inform us of the effect of brief intervention by a General practitioner, Emergency department doctor, or ENT surgeon on the public perception of correct first aid measures.

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