CASE REPORT AND TECHNICAL NOTES
MUCOCELE OF THE SPHENOID SINUS
REPORT OF A CASE WITH AUTOPSY FINDINGS
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Since Garreau's first called attention to the condition in 1881 and Rollet introduced the term mucocele in 1896, this affection of the accessory nasal sinuses has been followed with considerable interest. Within more recent years, its relatively frequent occurrence has been more appreciated. As early as 1909 Gerber collected 178 cases and Howarth found nearly 300 by 1921 and thought there were many more.

Mucoceles of the sphenoid sinus on the other hand have been described quite infrequently. Among the few appearing in the literature are those of Rolland, Knapp, Polyak, Benjamin, Litwinowicz, Rhese, Van der Hoeve, Meisels, Schüller, O'Shea, Cavina, de Francesco, Fornari, Berendes, and Bilchick. Including others which may have been overlooked, it seems reasonable to assume that not many more than 25 have been published in the medical literature at this time. Some of the cases reported have been little more than brief notes, and probably many of them cannot be accepted as sphenoid mucoceles without criticism.

Mucocele is defined frequently as an accumulation and retention within a sinus of mucoid material or secretion resulting from continued or periodic closure of its ostium with gradual thinning, distension, or actual erosion of one or more of its walls. When the contents of the cavity are purulent in character, the condition is referred to as a suppurating mucocele or pyocele.

In the more commonly occurring frontal and ethmoidal mucoceles, the clinical features are orbital in character with proptosis and other signs leading to the diagnosis. The sphenoid sinus mucocele, however, presents a difficult problem diagnostically. This can be appreciated from reviewing those described in the literature, as well as from the experience gained in the observation of the unusual and interesting case we are reporting at this time. We have, moreover, been unable to discover any other autopsy examinations in this condition.

REPORT OF CASE

Mr. L.H. (Case #20034), aged 54, former accountant by occupation, was referred to the Good Hope Clinic July 21, 1938 by Dr. C. Morley Sellery. He gave the history of having suffered with sinusitis and associated left-sided headaches since 1920. He was first operated upon in 1923, when the left frontal sinus was opened and the left middle turbinate removed. In 1931 an operation was performed on the left antrum, and a Caldwell-Luc procedure done in 1932. In addition the patient had numerous sinus treatments. Although colds were infrequent, he noticed an almost constant, thin, whitish nasal discharge. With his not infrequent attacks of sinusitis, this seemed to become thick and rather yellowish. He also discovered that his headaches, which were invariably left frontal with radiation to the left side of the head, were worse with the sinus attacks, and were relieved by the flow of the nasal discharge. During July 1937 he experienced his first spell of severe left frontal and occipital headache, which he presumed was the result of an attack of influenza. During this time he felt weak and incapacitated. A second episode occurred about 6 weeks later, but this time his temperature was subnormal rather than elevated. A third episode, which took place during December 1937, lasted 2 weeks. A very similar attack of headache and exhaustion occurred about February 1938. In May 1938 he again had a spell of headache, this time preceded by a chill and an incident in which he lost consciousness. He was in bed for about 4 weeks.

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The family history was irrelevant. The past history revealed that the patient's general health had been good prior to his symptoms which began about 1920. He had the usual childhood diseases including a severe case of diphtheria at the age of 6 years, following which he had a bilateral otitis media. Since that time he had been deaf in the left ear and hearing had been impaired in the right. The past history was otherwise without significance.

Examination. The patient was an apathetic man, somewhat undernourished, weighing 124 pounds, 5 feet 6 inches tall, with a pale and sallow complexion, mentally clear and cooperative. There was no stiffness of the neck. A large perforation was seen in the right tympanic membrane which appeared to be in contact with the promontory. The left ear drum was also adherent to the promontory. Nothing unusual was discovered in the examination of the heart, lungs, abdomen, or extremities. In the neurological examination he was unable to identify camphor or coffee in the left nostril, but he did so normally in the right. The watch tick was not heard when the watch was pressed against the left ear, but was heard at a distance of 4 inches from the right ear. Air conduction was greater than bone conduction in the right ear; while bone conduction was heard in the left ear, but no air conduction was present. The Weber was not referred. The general neurological examination disclosed no abnormal findings.

Examination in the otorhinolaryngological clinic showed both antra to be dark on illumination and the frontals to be translucent. Nasal examination revealed a pale mucous membrane with no polyps present. The left ostium of the sphenoid appeared normal. The left antrum was irrigated and the fluid returned clear. Caloric vestibular tests at this time showed no response from the left side, and a subnormal response from the right vertical canals. The impression was that the left ear was not responsive to stimulation.

Ophthalmological consultation disclosed a visual acuity of 20/20 in each eye. Funduscopic examination revealed a picture of healed bilateral choroiditis of the perimacular area.

Urinalysis was not unusual. The hemoglobin was 82 per cent, the erythrocyte count 4,510,000, with a color index of 0,91, and leukocyte count 8,400. The differential examination showed nothing peculiar. The blood Wassermann was negative, non-protein nitrogen 88 mg. per cent, urea nitrogen 19 mg. and serum sodium 307 mg. The basal metabolic rate was recorded as minus 20.

Roentgenograms of the skull were interesting in disclosing the presence of two irregularly shaped translucent areas in the occipital bone which seemed suggestive of a diploë epidermoid or cholesteatoma. The pineal gland was calcified but showed no displacement. The posterior clinoids were completely wiped out, and the left anterior clinoid process appeared to be eroded. The sella was also enlarged suggesting a tumor in this location. It was believed he might have a cholesteatoma in the occipital region and possibly in the proximity of the third ventricle as well. Hospitalization for ventriculography and probably craniotomy was recommended.

Operation I. The patient was admitted to the Hospital of the Good Samaritan and operated upon Feb. 16, 1939. A ventriculogram revealed ventricles of normal size with no significant displacement. Because of the peculiar markings in the occipital bone, it was believed that these should nevertheless be explored and the etiology determined. A suboccipital craniotomy was carried out exposing these mentioned areas, which seemed obviously due to arachnoidal abnormalities. The dura was opened and no evidence of a cholesteatoma discovered. A piece of tissue was removed from the rarefied areas including the dura in the region, and microscopic examination was reported as showing principally fibrous tissue with numerous thin-walled vessels.

Course. He recovered uneventfully, but on the third postoperative day vision of his left eye was markedly impaired. This failed to improve and pointed to pathology in the pituitary area. Roentgenograms of the skull were again reviewed and the erosion of the sella noted as well as what appeared to be the calcification of a suprasellar cyst. Further questioning brought out the fact that on several previous occasions the patient had noted diplopia or blurred vision.

Operation II. The patient was reoperated upon Mar. 11, 1939 with the preoperative diagnosis of suprasellar meningioma or cyst. A left frontotemporal osteoplastic craniotomy was carried out with this in view. The frontal lobe was retracted exposing the pituitary fossa.