Mucocele

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A mucocele in the frontal sinus is no rarity. It was already described by Langenbeck as far back as 1806. Usually they are, however, so small that they do not give rise to complaints. Not until they become bigger do they cause complaints like headache, a tight feeling around the head and disturbances of sensibility. They can grow to enormous proportions.

The patient's past history usually yields a sinusitis, a sinus operation or trauma, or an event due to which ectopic mucosa may develop. The most characteristic pathologic-anatomic picture is that the cyst wall, originally consisting of ciliated epithelium, changes into goblet cell epithelium, which excretes a tough mucus. The vesicle becomes greater and greater due to this mucus formation. In very large cysts the cells are flattened.

In the beginning, when there is nothing to be seen or to be felt, the diagnosis is made radiologically. A differential diagnosis from sinusitis and tumor is sometimes very troublesome. It becomes clearer in later stages. The cyst has caused a bulge in the wall of the sinus due to pressure, or the walls have disappeared.

Not only the orbit but also the dura and the temporal fossa may be affected. In an extension towards the orbit usually a ping-pong ball-like or firm-elastic resistance can be felt in the upper part of the orbit. In an even later stage the orbit can be displaced and its movements limited.

All large mucocèles should be removed by operation. This is done by opening the sinus at the level of the brow and extirpating the cyst from it. The cyst wall should be entirely removed.

Possibly residual cells are killed by rinsing the cavity with alcohol.

Complications of this operation are: a cerebro-spinal fluid leak due

56

Oei/Gillissen

to the posterior wall of the sinus being perforated. In this case the gap should be filled with bone wax. If this complication is expected, prior consultation of the neurosurgeon is therefore very important. Eye complications are ocular muscle lesions, inflicted by the extirpation of the mucocele if this surrounds the ocular muscles. Usually the abnormalities are to be found in the trochlear region. On one occasion we severed the superior oblique muscle. After pre-operative suturing, the postoperative ocular movements proved to be undisturbed.

If a large cyst has been removed, the patients frequently retain a dent in the forehead. This dent can be camouflaged by spectacles or can later be filled with other material.

Discussion

Von Witting: I would like to mention the refraction, the direction of folds of retina or choroid, and especially the Javal values as indications of the bulbar deformation and the site of the

pressure on the bulbus; the simplicity of these investigations make them highly suitable for the follow-up.

Oei: Usually no retinal folds are visible and no refractory changes demonstrable, because the mucocele grows so slowly.

Van Balen: If in case of a palpable tumor nasally in the upper part of the orbit, due to which the bulbus has been displaced downward in a temporal direction, only an increased pneumatization of the ethmoid is found, does this constitute an indication for surgery for the otologist?

Oei: All tumors should be operated on if necessary and sometimes independent of the results of the X-ray pictures.

Copper: I point to the great importance of actually measuring, with the ruler always at hand, the possible lateral dislocations of the bulbus, in lateral direction with respect to the median of the nose, in horizontal direction with respect to the connecting line between the upper attachments of the ears. On the one hand, supposed dislocations then sometimes prove to be absent, for example in cranial asymmetry, on the other hand, one may be surprised by a dislocation not noticed in the inspection.

Kiewiet de Jonge: How can a tumor of the orbital roof cause a sagging of the orbital floor; this in connection with the low position of the eyes?

Oei: The globe and the orbital contents should be regarded as an entity; pressure on the orbital roof causes pressure on the orbital floor resulting in a sagging of the floor.