THE BATHING POOL AND DEAFNESS

BY

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The rush to the swimming pools during the recent heat wave has brought in its wake the inevitable crop of infected ears and sinuses. The public is still unaware of the potential seriousness of these infections, and it behoves us all to stress the importance of prevention as well as of prompt treatment.

From the standpoint of ear infections patients fall into the following groups:

- (a) Those with healthy mid-ears and outer ears.
- (b) Those with a tendency to external otitis.
- (c) Those with o'd healed otitis media, with or without perforation.
- (d) Those with active middle-ear disease.
- (e) Those with so-called catarrhal mid-ear deafness.

It is highly desirable that bathers should be grouped and advice given to them in accordance with their conditions. Wherever impacted wax is found it should be removed, if necessary after soaking for a few days with guttae No. 1. Keratosis obturans is even more dangerous and obstinate, but perseverance with these softening drops will enable it to be evacuated by gentle syringing, and certainly no bathing can be permitted till the outer ear is quite healthy. In syringing use equal parts of saturated solutions of borax and boric acid, as hot as can comfortably be borne. Hot solutions are far more efficacious than colder ones, and never produce troublesome labyrinth irritations.

The danger of these conditions lies in the fact that, should otitis media occur, it is infinitely more difficult to treat.

Otitis externa has various clinical manifestations, but the commonest is a dry seborrhoeic eczema, commonly associated with a similar condition of the scalp. Treatment should always be in collaboration with a dermatologist. Unfortunately, the patient commonly presents himself after an infection has occurred, with swelling and weeping tissues and possibly even furuncle formation. In general, wetting the ear is to be avoided, but treatment may be instituted with gentle syringing. This should never be repeated unless excessive debris accumulates later. Much the most efficient treatment afterwards is to fill the ear with guttae No. 2 and then pack in ribbon gauze soaked in ung. hyd. ox. flav. This is repeated daily. When the acute condition has subsided a simple spirit and boric drop is useful, or in cases with much pruritus or a tendency to lichenification, guttae No. 3.

Mid-ear infections are, of course, far more serious, and patients with mid-ear disease, active or quiescent, should be made aware of the risks they run. Unfortunately, the practice of plugging the ears is regarded in general as sufficient prophylaxis. I believe this is a dangerous fallacy. Whilst admittedly the entrance of infected water into an unhealthy middle ear via a perforated tympanic membrane is clearly one method of infection, nevertheless I am strongly of the opinion that the commonest method is via the Eustachian tube. In those who dive or swim much under water, but above all in the indifferent swimmers who breathe at the wrong moment, there is always a liability to get a "noseful" as well as a mouthful. A swallowing action then takes place in an effort to inhibit further respiration (the physiologist's "respiration of deglutition"), and the opened Eustachian tube is liable to be flooded with infected water. Further passage

into the mid-ear can occur, more particularly if the tympanic membrane has a perforation to act as a bung-hole. If this is correct, it means that plugging the ears has little value. My own advice to such patients is to avoid diving and under-water swimming. However, if one does get a "noseful" he must on no account swallow or snort or blow. The best plan is to hold the head slightly forward and breathe gently through the widely opened mouth until the nasopharynx has dripped clear.

Patients in group (d) and, to a less extent, group (c) must realize that unless they are exceptionally good swimmers the utmost danger attaches to such strokes as the "trudgeon" or the "crawl." A simple breast stroke is the only one permissible, and actually I always attempt to dissuade them from swimming at all.

The progress and treatment of acute otitis media and its complications are well known, but it is not sufficiently realized that much deafness can occur insidiously as a result of a pathological process quite unaccompanied by the dramatic symptoms of pain, otorrhoea, and so on, and which is therefore allowed to progress unchecked. The underlying cause, I believe, is again the entry of brine into the middle ear. Normally an exudate in the tympanum should be evacuated via the Eustachian tube. Such drainage is very readily impeded by swelling of the mucosa lining the tube, or by interference with ciliary action. We have only to notice the congested eyes of so many bathers to realize what can occur in the much more delicate columnar ciliated epithelium of the middle-ear cleft. If at the same time some brine has become trapped in the tympanum, it will, by its hypertonicity, induce an exosmosis, so filling the ear more or less completely with an aseptic exudate.

Patients with this condition complain of "hearing through cotton wool." They have no pain, or at most an occasional stab or prick, and their temperature is not raised above 99°. On inspection, the drum is quite typical: congestion involving the lower half, distorting the cone of light, but hardly interfering with the appearance of the short process or of Shrapnell's membrane. Occasionally a fluid level is visible and more rarely actual bulging of the lower half of the drum.

Apart from the liability to infection, this condition is of supreme importance in that it aggravates and accelerates all forms of mid-ear deafness, and indeed it is probably the actual initiating factor in many cases. Treatment should clearly be preventive, but we must above all avoid such heroic measures as myringotomy. Of course, if infection occurs the case is treated on the classical lines for acute otitis media; otherwise twenty-four hours in bed in a cool airy bedroom will enable the insulted mucosa to regain normality and to absorb the exudate. The hearing should, however, be carefully tested subsequently, when it will be found only too often that some diminution has occurred. Theoretically one would expect it to show lowering of the upper tone limit, suggestive of round-window lesion, but I have no conclusive findings on this point. Treatment must, of course, be left to a competent aurist.

GUTTAE

No. 1	Sodii bicarb.	...	...	...	gr. x
	Glyc. acid. carbol.	...	...	...	3 i
	Glycerin.	...	...	...	3 iii
	Aq.	...	...	...	ad 3 i

No. 2. Crooke's mercurochrome for aural use.

No. 3	Liq. picis carb.	...	...	...	m v
	Ung. hyd. nit. dil.	...	...	...	3 i
	Sp. vini rect.	...	...	...	3 i
	Paraff. liq.	...	...	...	ad 3 i