THE USE OF THE TUNING FORK AS A TEST FOR DISEASE OF THE MAXILLARY ANTRUM.

BY D. A. KUYK, M.D., RICHMOND, VA.

Except by surgical means we have no method of examination of the maxillary antrum that is quite positive or satisfactory, and even the surgical method of exploratory puncture through the nasal wall, owing to the bony formation of the wall or the location of the antrum, both of which vary so often, even in the same individual, will at times fail.

Take for instance a case in which the nostrils are so occluded by hyperplastic turbinates, with a badly deflected septum, with a malposition of the ostium maxillare preventing, even after the nostrils are rendered patent, direct entrance into the antrum, and yet there are many subjective and objective symptoms of antral disease, perhaps empyema, perhaps a growth of some kind.

There is a purulent collection in the nostrils, but this might as well come from the frontal sphenoidal sinus or the ethmoid cells.

Pain is produced by percussion over the antrum, but the patient is hysterical from attacks of pain, also through fear that something terrible will be done.

Transillumination gives a shadow on either side.

The patient fears exploratory puncture, in fact declines it.

Here are present the cardinal symptoms of antral disease with a history guiding us direct to that cavity; but how often are histories misleading? The responses to our tests are by no means infallible.

The dark spectre of doubt haunts the surgeon and causes him anxiety, almost fear.

If now we can employ yet another test, one that is simple and painless, one that will remove at least some of the uncertainties that always exist to a greater or less degree in most of these cases, a test that will most likely give us a fair amount of positive evidence, the diagnosis will be more easily made and the surgeon relieved of much doubt as to the correctness of it.

It is to testing with the tuning fork, over the antrum and the teeth, the first and second molars, that is referred.

If now the antra are free and clear the tuning fork (C. & Co. being preferably used) will be heard with equal distinctness and for a like duration over each side and in either location.

Let me say in parenthesis that it is not well to explain to the patient just what is expected of this or perhaps any other test.

If now one antrum contains fluid the fork will not be heard so distinctly, perhaps very faintly; perhaps not at all, as occurred in one case, but if the opposite antrum is free the patient replies quickly and positively in the affirmative.

Given another case in which the symptoms are obscure, but transillumination gives a shadow on the left side and none on the right, with subjective symptoms inclining one to suspect disease of the left side, the use of the tuning fork placed on the left side was heard louder and longer than on the right; the natural deduction was that the left antral wall was thicker than the right, thereby the better favoring sound transmission and thus almost conclusively eliminating this cavity as the offending structure, and so subsequently it positively proved.

Quite a number of healthy cases have been thus tested with but slight variation in the result of the findings, but the experience of one person is barely sufficient upon which to base positive assertions.

It is, therefore, the writer's object to call the attention of his confrères, especially those who have unlimited clinical material, to the possibilities of this test which, so far as he knows, has not been before employed, and to be by them further elaborated or perhaps, as so often occurs in the nature of all things, to be rejected.

The same test was used with much satisfaction in a case of frontal sinus disease; it might also be employed in examining for ethmoid disease; certain it is that in disease of the mastoid bone conduction is much diminished if not altogether destroyed.

It is much to be hoped, alike for the benefit of the patient as well as for the surgeon, that this test will prove helpful, for if it does it will most certainly aid in clearing up some of the doubts of the diagnosis of disease of not only the maxillary antrum but of other superficially situated cavities.