Can speech present a sign of congenital syphilis? : first note, three cases / by Walter B. Swift, M.D., Boston, Instructor in Neuropathology, Tuft's College Medical School ; in charge Voice Clinic, Boston State Hospital, Psychopathic Deptartment.

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CAN THE SPEECH PRESENT A SIGN OF CONGENITAL SYPHILIS?*

First Note, Three Cases.

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I make no apology for presenting a paper before a scientific society in the form of an interrogation rather than in the usual form of a positive statement. My reason for doing so is threefold: First, I lack the clinical material to carry the investigation on to the final stages; secondly, I wish to inspire others to undertake the observations themselves; and, thirdly, I may possibly be able by this form of presentation to divert a few cases to my own clinic for investigation.

Several of the many varied symptoms of congenital syphilis show certain definite characteristics. One of these is "Hutchinson's teeth." This sign of congenital syphilis is one that we usually expect. It is a failure in complete bone development; that is, it is the result of a nutritional lack which stops the final outgrowth of bone. This symptom itself is usually looked upon as strongly indicative of the syphilitic lesion. It is not pathognomonic.

Most of us have heard of the malnutrition of bone and regard that also as another strong

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indication. This symptom, which is known as scaphoid scapula and which has been presented by Graves[1] of St. Louis, is another lack of bone growth that may be caused by syphilis in its congenital form. Graves acknowledges that this symptom is not one which is pathognomonic of the lesion in question, yet it nevertheless can be caused by it. He therefore would base a diagnosis upon the existence of other signs of the same kind; and when this one is present with the others, he considers that it, too, has been caused by the syphilitic infection.

"Hutchinson's teeth" are found by simple observation. The scaphoid scapula is determined by palpation or through the employment of an x-ray. Any sign that the voice may present is naturally detected by the way the voice sounds to the ear. Thus if there is any sign in congenital syphilis that appears in the voice, it will naturally be one that without further examination can be detected acoustically. Inspection of the vocal cords should follow.

Several interesting cases which have come under the observation of the Voice Clinic at the Psychopathic Hospital have led me to ask my question. The chief of these is the appearance of three congenital syphilitic cases with voices of similar nature. Those cases I should like to present in very brief form:

Case 1. E. W., girl, 10, Russian, school grade 6. Complaint: hoarseness.

P. I. Voice has never been clear. For the last year considerably worse. Very hoarse when crying.

P. H. At 8 months, diphtheria; at three years, measles. Nose once broken. One year ago tonsils and adenoids removed. Promised voice cure that never materialized.

F. H. Father and mother living and well.

P. E. Negative except for scaphoid scapulae and deeply notched upper incisors (Hutchinson teeth). No tibial exostoses. *Wassermann positive.*

Vocal Examination: Vocal elements all normal except S, which shows slight right lateral stigmatism. Vocal tone is in general very monotonous and on a pretty constant low pitch. On attempt to sing the scale beginning at C′ (256) the last two or three notes are hard to execute, ill-sustained, and often break. Voice tires quickly, especially upon high notes. Had a peculiar "tinpanny" cry when a baby.

Case 2. S. B., boy 10, school, Russian.

P. I. Complaint: Lisps and talks in a whisper. Began to talk by lisping; and by saying his words in a whisper. Now converses in a rough, rasping, harsh voice. Used also to stutter, but now shows no sign of it.

Vocal Examination: Fricatives and explosives all normal. No stutter. Every utterance accompanied by a vocal cord rasp, giving a certain uniform hoarseness. Whisper is clear in all forms of enunciation. Edges of both vocal cords are thick, white and hardened. Right vocal cord markedly bowed outward. That is, the finer edges are absent.

P. H. Four-five, measles; nine, adenoids and tonsils.

F. H. Immediate family negative. A cousin "insane."

Case 3. C. N. Scaphoid scapulae.

Hoarse since birth. Father same.

Heart misses a beat in every four. Otherwise negative.

Wassermann positive.

In these three cases congenital syphilis was our diagnosis.

All these cases presented a certain type of voice which has the following characteristics:

The characteristics that were noticeable were a harsh, squeaking, monotonous tone, noticeably intense, a considerable tenseness of the vocal organs, absolutely no flexibility and little or no change in pitch. Besides these things, after treatment though long-applied, persistent vocal drill, only slight changes, if any, resulted.

The failure of any treatment and the consequent impossibility of adding any flexibility to such a voice naturally gave rise to the conclusion that the organs of production were permanently changed. The evidence further showed that the change was not only permanent but marked. It was such that the vocal cords could be used in only one way; and this without any possibility of development, variation, or learning ability—a functional incapacity.

Beyond showing the permanency of this change, the vocal sounds indicated the kind of change, as well. It was monotony of voice, or, in other words, a lack of flexibility. This logically indicated that the edges of the vocal cords were immovable, rounded and hardened. For this reason minute vibrations could not occur, and a change of pitch was out of the question. Consequently a variation in tone that would otherwise be flexible was also impossible.

From the character of the sound, then, and from the monotony of it we are able to infer that the change is permanent; and that it was either a thickening or hardening of the edges of the vocal cords, or, better, a lack of development in the edges of those vocal cords. Inspection confirmed this diagnosis.

I have been unable to photograph any of these cases so as to show you how the vocal cords are

hardened, but I think we may come to some tentative conclusion even without that evidence. My question, then, is this: If we can have a syphilitic infection that results in the non-development of a certain area of the two upper frontal incisors; and if in the same manner we can have a lack of bone development in the scapulae that can result in a marked deformity, and a deformity so marked that it can be dignified with the new name, scaphoid scapulae; why can we not likewise have such a mal-formation of the cartilages of the vocal cords that those cartilages will be unable to function in their finer forms and can merely externalize voice as a harsh, rasping, monotonous tone?

He who meets continually the individual cases often has a chance to see conclusions that others can not draw from the words. I feel that I am in that situation, yet I do not feel that the conclusion which I draw is as final as more evidence in further investigation will be able to make it. I should remind you that perusal of the literature reveals no description of this sign.

CONCLUSION.

I conclude from these three cases that there is a voice sign in congenital syphilis which manifests itself in a harsh, rasping, monotonous, low-pitched voice that is at most only slightly, and usually not at all, amenable to any sort of treatment. I bring the question up as a point of discussion to be taken up by you and threshed out in still better form. I trust either that my question will elicit markedly destructive data to settle the query in one way; or that the discussion will present fuller and clearer evidence than I have been able to find, and that corrobora-

tive criticism may more completely establish my conclusion. My answer to the original question is positive.

SUMMARY.

Congenital syphilis can cause a faulty or incomplete development of vocal cords that results in vocal monotony and harshness in both conversation and weeping. As spirochaetosis has been of late offered[2] to cover all the lesions of syphilis. I propose as a name for this sign *scaphoid vocal cords and spirochaetotic harshness.*

REFERENCES.

[1] Graves, Wm. W.: A Study of the Respiratory Signs in Chorea Minor, Jour. A. M. A., Vol. lii, p. 364.
[2] Swift, Walter B.: Transactions of the American Medico-Psychological Association, Vol. 21, 1914, p. 214.

DISCUSSION.

DR. W. P. COUES: Among the symptoms which Dr. Swift did not mention and which one sees from time to time are the large, soft, dilated veins on the abdomen and chest; another is the saw-line of the epiphyses, both of which are not absolutely diagnostic, but very suggestive. I think that Dr. Swift's paper brings up also the question of third generation syphilis which most American syphilographers do not admit, or at least admit very guardedly as being possible. To those who are skeptical on this subject, the perusal of Fournier's recent book, 1912, "Late Hereditary Syphilis of the Second Generation," will be a revelation.

I was very much interested to see that the Wassermann in this case was doubtful, as we have had in our clinic several cases of the same sort. Some cases have shown gumma of the glands of the neck, and this is a point which we do not always think of.

Question: May I ask if the hoarseness is permanent and does not change?

DR. SWIFT: Yes.

DR. WALTER B. SWIFT (closing): I am glad so many have taken interest enough to discuss my paper. I regret, however, that Dr. Post could not return from Buffalo in time. He holds that the clinical side of syphilis still needs working up in researches and should not be neglected for the serological side. He believes in my voice sign in congenital syphilis and considers it a symptom of some value.

I notice no dissenting in the discussion this evening, no one has offered any evidence that undermines this claim of a speech sign in hereditary lues. As far then as a preliminary note, though as yet unconfirmed, it stands unattacked.

In answer to Dr. Solomon, I would say a word about frequency. Of course, I have not had enough cases to establish any frequency. These other signs, Hutchinson's teeth, tibial exostoses and interstitial keratitis all have their relative frequency: A matter can be established only by having a large number of cases and making a thorough examination of every point in each.

In response to Dr. Coues I would say that it was not my purpose to be exhaustive in the presentation of symptoms. He seems to know them all! I merely present at this time what I consider as evidence enough to establish a voice sign as a new symptom.

In response to Dr. Brown, I would thank him for participating in the discussion and presenting his valuable data. I wish you all had said more to undermine my claim. It is unfavorable criticism I like best. We learn most from that.

That speech alone should have brought these patients to the Voice Clinic is significant. It shows that the speech was the one organ affected in a marked way. It shows that the speech sign was the only one noticeable. It shows that here we may

have a new and easy avenue to finding syphilis in parents; and thus lead to steps of prevention not otherwise approachable.

Some may feel that the functional evidence I offer is not sufficient. I would add a word to refute this.

When in Berlin I presented my temporal lobeless dog to the Berlin Neurological Society some one objected that I had not offered anatomical proof. My chief, Professor Jacobsohn, then arose and said, "The functional evidence is sufficient." So here, the monotony, the harshness, and the low pitch in incurable forms, are conclusive evidence of permanent structural change.

I consider the speech mechanism as the easiest avenue to the earliest symptoms of many a nervous and mental change. But we are not yet quite sensitive enough to catch this message! This paper is one of a series of contributions to this early aspect of mental hygiene, which will aid in diagnosis of vague cases in the interest of prevention. Let me emphasize again that the hope along the line of prevention is that this sign may show up some syphilitic cases that would otherwise remain unknown. It has already done so in the cases mentioned above. Once this voice sign is known and through practice can be easily recognized merely by listening, it then will be a key not only to the case in hand with brothers and sisters but to parental conditions as well.