TONSIL FACTS.

DR. THOMAS M. STEWART, Cincinnati, Ohio.

In an article by the author published in the *New York Medical Journal*, January 4, 1919, on high frequency electric currents in the treatment of enlarged or diseased tonsils in comparison with the results of cutting operations, data was compiled and published on 13,329 tonsil operations. The data referred to was in agreement, in the main, with the report of the Johns Hopkins Hospital in Baltimore.

A resume of the author's conclusions are as follows:

1. That the tonsil operation does not insure against future attacks of sore throat, nor of other diseases and infections for which the operation is done.
2. That tonsil tissue is present in nearly one-half of the cases after operation, not always to the detriment of the patient nor a reflection upon the operator.
3. That the new electric treatment, or fulguration by means of the high frequency current, secures reduction in the size of the tonsil in over 75 per cent of cases by causing a shrinking in the tonsil with healthy instead of diseased tissues as a result; no risk to the voice, and of course no danger of shock, hemorrhage or death.

Since the aforementioned article was published 175 letters have been sent out to patients who have undergone the new tonsil treatment and replies received from all but fifteen. Of the 160 cases remaining eight were operated on. All of the others (152) report freedom from throat and general trouble, and the cases run back three years.

The use of the high frequency electric current is not by any means restricted to tonsil, goitre, prostatic and nasal work, as the following quotation from the September, 1918, issue of the *American Journal of Electro-Therapeutics and Radiology* will show. It is taken from the "Report of the committee upon new surgical uses of high frequency currents with special reference to the treatment of surgical tonsils and hemorrhoids by the desiccation method," of which committee W. L. Clark, M.D., Chief of the Electro-Therapeutic Clinic, Jefferson Hospital, Philadelphia, Pa., is chairman. His statement is as follows:

"High frequency currents continue to play an important role in the field of surgery. It has hitherto been demonstrated that the desiccation method is ideal for the treatment of benign lesions of cutaneous surfaces, mucous membranes (including growths in the bladder), cartilaginous and osseous structures; among which may be mentioned papillomas, veruccae, chondromas, exostoses, moles, vascular and pigmented naevi, urethral caruncles, tattoo marks, powder marks, etc., also for localized malignant lesions, both from a curative and cosmetic standpoint. More recently other important surgical uses have been found for these currents, and the results obtained have *gone even beyond expectations*. The more important of these is the treatment of surgical tonsils and hemorrhoids by the desiccation method, and the destruction of large malignant lesions by electro-coagulation, even with extensive bone involvement; while in some instances the value is increased when used in conjunction with operative surgery, X-ray and radium. Among the anatomical locations of cancer now treated by intensive high frequency currents may be mentioned the oral cavity, including bony structures, antrum, pharynx, esophagus, breast, bladder, uterus and rectum. It seems practical to treat malignant lesions of abdominal organs after laparotomy by these methods. This has not been undertaken as yet, except in the bladder after supra-pubic cystotomy, but preliminary animal experimentation has already been undertaken with the view of determining the possibilities of the electro-thermic methods in the abdominal cavity."

The foregoing statement will serve to establish the value of the high frequency current, and aid those to whom these matters are familiar, to respect an agent capable of accomplishing curative results in so wide a range of lesions.

Infection from the tonsil does not mean removal of the gland. Dr. William Martin of Atlantic City says, "The tonsils play a part in infections, and all tonsils with 'pockets' should receive attention. By this is not necessarily meant their removal, for many cases can be relieved by slitting and drainage."

Errors in diet have produced the exact clinical picture as seen in some infections, and correction of dietic errors has been followed by a complete cure, and again, too, little attention is paid to the after results of operation. Dr. A. Jacobi, the nestor of American medicine, says: "Only one in twenty operations on the nose for instance will prove beneficial," which simply means that cases should be selected more carefully and more attention paid to pre-

paratory as well as to after treatment in order to secure better results from operation.

When the people learn that a gradually increasing number of physicians are becoming experts in the treatment and prevention of disease by physiological means rather than invariably by operation, then the recurrence of disease will be lessened.

Opinions are often complacently announced as if they were proven facts; witness the following opinion of the late Edward Pyncheon, M.D.: "For all the conditions enumerated and dependent upon enlarged and diseased tonsils, a positive cure can be guaranteed.

Fig. 1. The small circle shows the tonsil section under low power, and indicates the same area on Fig. 2 which is a high power magnification.

"The only rational treatment is surgical, that is the total excision of all tonsil tissue."

"That is a flat contradiction of almost all of the conclusions of the study made of tonsil cases a year and more *after* operation by the Johns Hopkins' surgeons; instead of a positive cure can be guaranteed," the Johns Hopkins report states:

"The very diseases for which tonsil and adenoid operations are performed may and do recur after the nose and throat have been put in normal condition.

"In any event the tonsils are not the only gateway for disease germs to gain entrance into the system.

"Tonsil treatment alone will not cure tubercular glands, rheumatic joints, nor kidney inflammation."

To which we might add that 40 per cent of cases after recovery from the tonsil operation are just as liable to sore throat as before operation, because of diseased follicles in the pharyngeal wall, and these cases constitute a fairly large per cent of cases best cured by fulguration.

Fig. 2. The area indicated by "A," indicates a blood-vessel; "B," white fibrous connective tissue; "C," area of infiltrated leukocytes and numerous spindle shaped cells which will later become fibrous tissue; "D," an area of cells undergoing degeneration and infiltrated leukocytes.

Fifty-five per cent have some tonsil tissue left in the throat, acting just as much as a cause of trouble as if the operation had never been done.

Fifty-eight per cent still have mouth breathing.

All of which means that too much is claimed for tonsillectomy, simply because patients are operated on and that is the end of the matter, it would seem, insofar as most surgeons are concerned.

We seem to forget that deaths do not occur from tonsil disease, but that many die from tonsil operations. This means that tonsil

operations are always dangerous. There is a large network of lymphoid tissue in the fauces, in the pharynx, and in the post-nasal space aside from the tonsil, and care in diet and the amount of drinking water are of equal importance with other means in tonsil treatment.

In the *Archives of Pediatrics*, July, 1906, Dr. A. Jacobi says: "Exposure and many diseases change the surface and the structure of the tonsils. Cell infiltration and cicatricial tissue render absorption less possible. Blood and lymph vessels undergo atrophy. That is why in advanced life the tonsil gets harder and smaller and *infections become less.*"

This, it seems to me, is just exactly what is accomplished by high frequency fulguration in the new surgical use of it in tonsil cases needing treatment.

In support of this statement the microphotograph shows what the high frequency current does to tonsil tissue. The tonsils were removed from a patient in whom fulguration had reduced them to one-half their former size. On account of the patient going away to school the operation was done because of lack of time for further high frequency treatment.

I quote from the report of Dr. Fletcher Langdon, Clinical Director of the Langdon-Meyer Laboratories of Cincinnati.

"These specimens are very much like the so-called normal tonsil. There is no special atrophy of the blood and lymph vessels, there is plenty of cicatricial tissue but it runs in the septa and not on the surface; the epithelial layer is about as usual, being more or less invaded by leukocytes, and in these areas there is some degeneration of the surrounding epithelia." These latter are the areas last fulgurated prior to the operation of removal of the tonsils.

Union Trust Bldg., Cincinnati, Ohio.