

55. *Adhesion of the Eyelids to the Globe of the Eye.*—M. PETREQUIN says he has succeeded in curing that most unmanageable deformity, adhesion of the eyelids to the globe of the eye, by the following method of operating:—He passes a needle, with a double ligature, through the adhesion; he then ties that portion of the ligature next to the eyelid loosely, and the portion next to the eyeball very firmly. The consequence is, that the latter ligature rapidly cuts its way through the adhesion and separates, while the former one remains for some days longer: the wound on the eyeball is thus allowed to cicatrize before the opposed surface of the eyelid is exposed by the separation of its ligature, and all danger of a relapse by reunion of the divided surfaces is thus prevented.—*Northern Journal of Medicine*, from *Traité d'Anatomie Medico-Chirurgicale Topographique*.

56. *Keratoplastie.*—M. PLOUVIEZ, of Lisle, communicated to the French Academy of Sciences, on the 18th of August last, a note in which he gives the results of his numerous researches relative to Keratoplastie. M. P. has been six years engaged in this investigation, during which period he has performed numerous operations, without, in a single case, succeeding in obtaining perfect transparency of the transplanted cornea. In the most successful operations the new cornea always continued more or less opalescent; vision, however, was several times re-established partially, but *partially only*. Among the cases related, is one of a girl, aged 23, who was blind from three years of age, in consequence of small-pox. M. Plouviez, after removing the opaque cornea, which was effected with great difficulty, because of its great density and thickness, replaced it with the cornea of a young dog which was killed at the moment. The sole result of the operation was, that the patient could better distinguish day from night, and could discern a strong light and the sun, but she could not guide herself without help.

The following are the conclusions of M. Plouviez's note:—

- 1st. The cornea of one animal can be transplanted to the eye of another animal.
- 2d. The human cornea can retain its vitality when transplanted to the eye of a rabbit.
- 3d. A cornea taken from a body five days dead can be grafted on, and become attached to the eye of a living animal.
- 4th. A cornea may adhere, when attached with one, two, or three sutures; but four are usually necessary.
- 5th. Flax or silk sutures are the best.
- 6th. Life is communicated to a dead cornea by means of a plastic fluid, which becomes gradually organized on the iris and between the edges of the dead and living corneas.
- 7th. Reunion by the first intention never occurs.
- 8th. A transplanted cornea always shrinks considerably—generally one-half.
- 9th. The remaining portion of the old cornea is always elongated concentrically towards the end of the process, and retains its transparency.
- 10th. Complete transparency of the transparent cornea has not been obtained by any mode of operation hitherto employed.

## AURAL SURGERY.

57. *New Method of treating Diseases of the Ear.*—At the meeting of the Academy of Sciences, on Jan. 6, 1845, a communication was read from M. WOLFF, upon a new method of treating diseases of the internal and middle ear.

In substituting aërial for liquid injections, in the treatment of diseases of the ear, a marked advancement was made in this branch of therapeutics by M. Deleau. But the change has not been advantageous in every respect; for whilst air-douches exercise an influence purely mechanical, and always identical, liquid injections enable us to fulfill very different indications, the water serving as the vehicle for substances which may be varied according to the nature of the case. Indeed, M. H. Valleroux has lately recommended injections of air charged with emanations from resinous and balsamic substances, which, being volatilized at a moderate temperature, have often a beneficial influence in aural catarrhs. But it is evident

that the greater part of the remedies which it would be desirable to make use of in diseases of the ear cannot be employed in this form; some because they are not volatile, others because they require for conversion to the ætiform state too high a temperature. Water, which, in being evaporated, generally carries with it a portion of the substances to which, in its liquid form, it served as a menstruum, cannot be employed in the state of vapour, because the high temperature required for its maintenance is unsuitable to the sensibility of the organs upon which it is necessary to direct it; but the ebullition of water gives rise to a current of humid air, which may be readily brought to a temperature capable of being supported without inconvenience by the walls of the Eustachian tube; and if the water has been previously medicated, some part of the principles with which it has been impregnated will thus accompany the moist air. This method requires for its employment a very simple apparatus. The water contained in an iron retort is heated by means of a spirit-lamp; the vapour escapes by a tube into a second and larger vessel, which contains a third, filled with cold water; to the upper part of the second vessel is attached a tube, by which the moist air escapes. The same apparatus may serve for the administration of remedies not previously dissolved in water. If, for example, it is wished to employ ætetic ether, or other medicines which volatilize at a temperature slightly elevated, on placing them in the third vase their vapour will mingle with the moist air.

As to the mode of introducing the vapour, if the Eustachian tubes are permeable, all that is requisite is to pass an elastic canula from two to three inches within the inferior nasal canal, so that one extremity shall be near the orifice of the Eustachian tube, whilst the opposite end is adapted to the discharging tube of the apparatus.

One grand recommendation of this very simple proceeding is, that it occasions no pain or pruritus, and may be practised by any medical man, or even by the patient himself.

It is requisite, however, that the diagnosis of the disease should precede its treatment, and the former will always demand the exploration of the middle ear by means of the sound. Hence, catheterism of the Eustachian tube remains as the principal means indicated in the diagnosis of diseases of the internal and middle ear; and it is equally necessary in their treatment when there exists any material obstacle to the passage of the air. All the different methods of performing this operation may be referred to two principal divisions—catheterism by means of the solid silver sounds of Itard and Kramer, and by means of the flexible sounds of Deleau, each of which has its advantages. The former mode is recommended by greater security in the execution of the operation, from the larger size of the instrument generally, and of its beak in particular. The latter method has also several advantages, of which the principal is very important, viz.: the ability to introduce the instrument much further within the tube; for whilst the metallic sounds are arrested at its orifice, the small elastic ones are able to traverse the greater part of its canal—three-fourths, according to Deleau. M. Wolff has attempted to unite the chief recommendations of the solid and elastic sounds. He describes two new forms of this instrument, one being metallic, the other elastic. Both are double; consisting of an external sound, equal in size to the instrument of Kramer, and of an internal one, corresponding in size to that of Deleau. The outer sound is of the usual length, 6 inches; the inner one is 2½ inches longer. The former is graduated throughout its whole extent; the latter only at the inferior extremity, which projects from the outer sound. In one form of his catheter the inner sound is composed of silver nearly or quite pure, and consequently flexible; whilst the material of the outer sound is ordinary silver, i. e., an alloy with copper, and on this account inflexible. In the elastic form the inner sound may be deprived of its stilet, as its passage is rendered sufficiently sure by the external sound which contains it.

The principal advantage gained by these alterations is this: that whilst they give to the operation all the sureness afforded by the large and solid instruments of Kramer, they enable us to penetrate equally far within the Eustachian tube as when the elastic instrument of Deleau is employed.

The metallic and elastic sounds are respectively preferable in certain cases. The double silver sound is more suited for the exploration of the middle ear, as

well as in cases of contraction or obliteration of the canal. The elastic sound, on the other hand, has the advantage of being much more tolerable to the patient.—*Lond. Med. Gaz.*, Sept., 1845.

58. *Polypus of the Ear*.—M. BONNAFONT presented, a short time since, to the Academy of Medicine, Paris, an interesting memoir on polypus of the ear, of which we present the following abstract.

The author discusses, 1st. The seat and character of these morbid products. 2dly. The symptoms which accompany them, and the bad effects to which they may give rise. 3dly. The treatment which they require.

1st. Their characters vary: they may be hard, resisting and irregular, or smooth, yielding, and elastic: painful or insensible. In considering this latter symptom, however, it is important to distinguish between the sensibility of the polypus itself and that occasioned by its pressure upon the surrounding parts.

Polypi may have their origin in any part of the auditory tube, or upon the membrana tympani; and, contrary to the opinion generally entertained, M. Bonnafont believes that they are met with more frequently upon, and in the neighbourhood of the membrana tympani than elsewhere. They assume a variety of shapes: they may be rounded or oval, flattened or elongated, and attached by a pedicle which may be long or short: but after the attainment of a certain size, their form becomes similar in all cases, owing to the pressure of the parietes of the tube, which compels the excrescence to extend either outwards or inwards upon the membrana tympani.

When the polypus springs from some point in the outer two-thirds of the meatus, and its direction is outwards, the symptoms are simply those arising from more or less obstruction of the canal; such as a sense of fullness in that part of the ear, and some degree of deafness; a constantly purulent discharge, the nature and abundance of which will vary according to the state of the tube; pain is rarely felt except when the polypus is large, and then it is much increased by mastication.

If the polypus increase in the opposite direction, so soon as it comes in contact with the membrana tympani the patient begins to experience a vague pain, especially in the throat, about the orifice of the Eustachian tube. The excrescence continuing to extend inwards, very acute pain is commonly felt in the interior of the ear, and is augmented by yawning, coughing, mastication, and especially by deglutition. Although it is not usual for the patient to complain much of pain in the head,—vertigo, a sense of dazzling, and sometimes vomiting, are not uncommon symptoms. During the period of acute suffering, the gait is staggering, like that of a person in an early stage of intoxication. All these symptoms suddenly disappear on a discharge of blood taking place from the polypus. It might be supposed, that as the cause is permanent, so the effects would be constant; but, whether from the gradual yielding of the parts upon which pressure is made, or the influence of habit, this is not always the case; and some degree of deafness may be the only symptom of the existence of a polypus. Its pressure may occasion adhesion between the membrana tympani and the inner wall of that cavity, anchylosis of the malleus and incus, &c. At other times, instead of yielding to the pressure which the polypus exerts upon it, the membrane bursts, and allows the entrance into the tympanum of a portion of the excrescence, which there increases in size so far as the capacity of the chambers will admit.

The existence of a polypus may be detected by a careful examination of the auditory tube. If it originate upon or near the membrana tympani, pressure upon it will occasion acute pain, sometimes vertigo, and lachrymation of the corresponding eye. On the other hand, in proportion to its distance from the tympanum, pressure will occasion but slight local pain.

Polypi arising from the membrana tympani have generally a larger base than others; they are also usually flattened, of a mushroom shape, and granulated upon the surface. This latter character, when they have not attained a large size, may render them difficult of detection, as they present considerable resemblance to the membrane in an ulcerated condition. The ability, however, to impart a slight rotatory motion by means of a fine probe, will serve to decide their nature. The prognosis will depend upon the degree of change in the tissues on which the

polypi grow; upon their point of insertion; their peculiar organization; the size of the pedicle; and the amount of disorder which they may have occasioned in the auditory apparatus.

1st. The polypus being a morbid product, developed in a tissue itself altered, it will be understood that the prognosis will vary with the cause of this alteration and the constitution of the individual.

2d. The case has a more unfavourable aspect when the polypus arises upon or near the membrane of the tympanum.

3d. Considered separately, soft and spongy polypi are less serious than those of a firmer tissue; the first easily yielding to any resistance, whilst those of the second class, by their pressure, may occasion severe suffering. But viewed with reference to their cause, spongy and bleeding polypi have a more grave character, indicating, according to the observations of Sturdt, a cachectic state of the constitution.

4th. The larger the base of a polypus, the more difficult is its removal, and the more probable its return. If a polypus with a large base originate upon the membrana tympani, it almost always occasions the destruction of the membrane, and sometimes the loss of the chain of bones.

5th. Still more serious results may be produced by the excrescences. If so large as to compress the walls of the tube, they may give rise to ulceration of the mucous and subjacent tissues, exposure and caries of the bone. If the discharge of the secretion be prevented, it will accumulate in the tympanum, and seek an exit by the Eustachian tube or the mastoid cells; thus producing inflammation and suppuration in the latter situation. The inflammation may extend to the parts in the neighbourhood of the ear; the parotid may be implicated, and by compressing the nerves which traverse it, occasion excruciating pain in the side of the face, paralysis of the facial nerve, &c. Conjoined with these painful symptoms, there may be vomiting so obstinate that even the simplest food is rejected.

In addition to these sufferings and dangers, the pent-up secretion may penetrate into the internal ear, and inflammation may be propagated from this part to the brain or its membranes. Under these circumstances, the disease may prove quickly fatal, if relief be not afforded by the extirpation of the polypus, or by dilatation and catheterism of the Eustachian tube.

*Treatment.*—As soon as the existence of the polypus has been ascertained, some operative procedure should be determined upon. The surgeon may choose removal by avulsion, the ligature, cauterization, or the knife.

When the polypus has a narrow pedicle, and is inserted into the walls of the tube, no matter at what depth, avulsion may be employed with advantage; but to avoid the inconveniences attending powerful traction, when the pedicle is resisting, it is advisable to combine traction and torsion. This method is less painful, and less likely to occasion hemorrhage than avulsion. If the polypus arise from the membrana tympani, this procedure will be obviously inapplicable in the majority of cases. After the removal of the polypus, the bleeding may be allowed to continue for ten or twelve minutes, and after syringing out the canal, the remains of the pedicle should be touched with the nitrate of silver:—this cauterization may be repeated in a few days, if the first has not proved effectual.

The ligature is useful in the same class of cases as the preceding mode of treatment, but it has the advantage of being applicable to polypi arising from the membrana tympani. It is requisite, however, for its successful employment, that the polypus be small, or the canula containing the ligature cannot be introduced. The peculiarity of the instruments recommended by M. Bonnafont consists in their being exceedingly delicate.

Cauterization is almost useless in bringing about the removal of large polypi, but it is very serviceable in destroying that portion of the pedicle which the other methods have failed to remove, and also in opposing the reproduction. The most useful caustic is the nitrate of silver.

M. Bonnafont resorts exclusively to excision, or the ligature, for all polypi springing from the membrana tympani, and, wherever it is possible, he prefers the former.—*Lond. Med. Gaz.*, Aug., 1845, from *Bulletin de l'Académie*, 1845.