

bronchitis in all cases of asthma, but that the congestion of the mucous membrane of the bronchial tubes might readily be produced by the same causes which in the beginning produced asthma.

### IS ABSCISSION A PROPER OPERATION?

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[Read in Section on Ophthalmology, Otology and Laryngology.]

A question which often intruded itself upon me when carrying out the suggestions of Mr. Critebek, was as to the propriety of removing the staphylomatous tumor and leave the bulk of the eyeball behind. This operation I have for many years abandoned, for the reason that I questioned the advantages supposed to attend the leaving of a part of the eyeball to facilitate the movement of the artificial eye shell. It is difficult to divest one's self of the idea, that a round, plump, symmetrical stump, is not essentially adapted for the application of an artificial eye, itself the section of a hollow sphere, which seems to invite into its open concavity a corresponding spherical surface. It seems to be a natural inference that when two surfaces are nicely adjusted they should work well together. However true this may be in joint movement, it must not be forgotten that such sliding movements are not wanted in the application of an artificial eye upon an eye stump. In this case there should be no motion between the opposing surfaces and yet a nice adjustment is always aimed at.

It is no easy matter to remove a general staphyloma and leave a symmetrical globe behind. The elliptical incisions necessary for amputating the corneal prominence wholly, leave sharp points or puckered ends to the cicatricial line, and these form ugly prominences against which the artificial eye presses injuriously. With a certain amount of friction which seems unavoidable, the movements of the eye shell against the irregular surface of the stump induce irritation, and these stumps are kept in a constant state of injection. When the irritation is daily re-excited by the presence of the artificial eye it leads to excessive mucous secretions and a thickened condition of the conjunctival surface, accompanied by an irritability of the socket, which often is so excessive as to exclude the possibility of wearing the artificial eye with any comfort. I find as the result of my observation that this train of symptoms are much more common when an artificial eye is worn over a stump than when carried in an eyeless socket. An explanation for this seems to reside in the much more limited contact of the shell when the eyeball has been entirely removed.

Should two sockets be compared, one holding an eye stump after a successful abscission, the other from which the eyeball has been properly removed, it will be noticed that the motions imparted to the socket tissues by the muscles caught in the cicatrix will be co-extensive with those moving the eye stump; but dissimilar in this regard, that while the eyeball rotates in the orbit with but little movement of the socket tissues, the muscular action upon the eyeless socket makes an irregular form of curvature as each muscle in turn pulls the socket tissue backwards, this

depression being accompanied by a corresponding elevation of the surface over the location of the antagonistic muscle. When an artificial eye is adjusted to an abscised globe nearly the entire opposing surfaces are in juxtaposition, the edges of the artificial eye overreaching the ocular boundaries and lodging against the socket conjunctiva, so that when motions are made by the muscles upon the eye stump and are transmitted by juxtaposition of surfaces to the shell, there must necessarily be some sliding or friction on account of the overlapping of the eye shell, the periphery of which rests upon resisting tissues to which but little movement is imparted. When an eye shell is adjusted to an eyeless socket, which exhibits a slight concavity instead of the eyeball convexity, only the very edges of the artificial eye touch the socket tissues so that friction of opposing surfaces is reduced to a minimum. The edge of the artificial eye rests on the lower conjunctival sulcus, and if of proper size should not press the upper conjunctival cul-de-sac. The variation of position in the plane of the socket as the cicatrix is acted upon by the recti muscles tilts the artificial eye in such a way as to establish movements which will be symmetrical although not co-extensive with those of the good eye. If the movements imparted to an artificial eye by the socket tissues be coequal with those distributed by an abscised eyeball while the effects of injurious friction are materially reduced, the immediate and ultimate dangers of preserving a part of the eyeball, as a cushion, under the belief that it offers advantages for the adaptation of an artificial eye, are too great to justify the operation of abscission. Enucleation may be considered one of the easiest and safest operations in eye surgery. The after-healing is prompt and the operation is final. Abscission, on the contrary, necessitates much experience and skill in the use of instruments to meet all of its requirements for obtaining a symmetrical stump. Destructive inflammation may be the immediate sequela of a most perfect operation. Should the patient escape this peril and the wound heal kindly the eyeball may at any future time become the seat of degenerative changes necessitating enucleation to avoid sympathetic irritation, and these may occur whether the ciliary region be injured or not, during the operation. When we weigh the difficulties and dangers immediate and remote of abscission, with the simplicity and safety of enucleation, with the belief that one has no advantages in moving the artificial eye over the other, then may abscission be rejected as an eye operation.

### DISCUSSION.

Dr. Culbertson said that in an experience of over thirty years, and embracing by no means a limited number of cases, he had not observed a single unfortunate result from abscission of the eyeball. This favorable showing was probably due to several causes, as follows: The abscission of the cornea and sclerotic one-sixteenth of an inch posterior to the sclero-corneal junction, thus removing the sentient extremities of the ciliary nerves and sensitive cornea, and permitting the escape of the crystalline lens (in one case

he had removed the detached and shrunken choroid, retina and vitreous, with favorable result); the removal of the iris; the rejection of sutures in the sclerotic to act as irritants, and which, closing the eyeball, aid in increasing the tension and the pain, thus leaving an open wound, that drainage from the eyeball may follow, as well as suppuration of its contents (Von Graefe having shown that when this follows sympathetic inflammation of the fellow eye does not obtain), and permitting these to return to the embryonal state mentioned by Stricker as the result of inflammation, and the whole process ending in the formation of a firm and non-sensitive cicatrix in the anterior region of the shrunken eyeball, on which rests the artificial eye in the future; and the use of disinfectants in the conjunctival sac, conjoined with cleanliness after the operation.

His patients were, as a rule, sitting up in three or four days, and convalescence has been uninterrupted. He had not observed flattening of the side of the face in children, or so much as a sulcus above the eyeball, following this, as after the operation of enucleation. He believed, too, that abscission permitted greater movements of the artificial eye. He cited also the fact that artificial eyes are worn often with impunity without the removal of the cornea or any preparation of the eyeball.

He would not abscise when sympathetic inflammation was present in the fellow eye, or when there was a foreign body in the affected eye.

Dr. Frothingham said that the operation of abscission should be abandoned and that the uninjured eye should be the objective point in a case of injury to it by sympathetic inflammation no risk should be incurred for the sake of æsthetic considerations. Further, that the operations prove more difficult to perform than enucleation and therefore the risk is greater. The stump is always a source of danger even after the lapse of years.

Dr. Lundy, of Detroit, had seen cases of total blindness from sympathetic ophthalmia after abscission. Thinks the wearing of an artificial eye over these stumps often produces great irritation. Had seen a case of ossification of the ciliary body and choroid as a result of irritation from the wearing of an artificial eye over such a stump.

Dr. Thompson, of Indianapolis, coincided most fully with the views expressed by Dr. Chisolm, and mentioned several cases of panophthalmus following abscission and two cases occurred under his observation where two formerly healthy eyes were sacrificed and vision totally lost after the operation of abscission.

Dr. Conner said he had seen disastrous results following the operation of abscission.

Dr. Noyes said he had formerly performed the operation, but had never seen bad results to follow; in all these cases he had however advised enucleation of the eye. He thought that suppuration prevented sympathetic inflammation in the other eye. In cases of foreign body he should always advise enucleation and thought that the safety of the uninjured eye was the main point.

Dr. Corawell, of Columbus, described an operation

for enucleation devised by himself which had proved very successful.

Dr. Chisolm, in closing the discussion, said that formerly he had been in favor of abscission, but that now he considered an injured eyeball, whether from operation or from accident, a source of great danger.

#### EARLY TREPHINING IN DISEASES OF BONES.

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A careful study of the vascular relations of a bone to its periosteum and medulla, leads to the conviction that there can be no serious deviation from the normal in either without implication of the remaining parts. Of the three component parts of a bone, the osseous tissue proper, owing to its comparatively passive nutritive state, is naturally least liable to inflammatory changes. As a rule, its morbid conditions are therefore secondary in character, and follow upon disturbances of the periosteum or medulla. From the superficial position of the former, its lesions, whether primary or secondary, are always easily recognized. Those of the medulla, on the other hand, are as usually ignored until the periosteum and the bone itself have become involved in a manner to attract attention by irregularities of outline, swelling of the soft parts, abscesses and fistulæ. It is for this reason, that periostitis is supposed to be the most common affection of bone, although there are most excellent grounds for the belief that, in the great majority of cases, the marrow must be looked to as the seat of the first pathological process. Concerning the destructive lesions of the articular ends of the long and of the cancellous tissue of the flat bones, this is universally conceded. What anatomical or physiological factor can be adduced to explain the difference which is supposed to exist in the course of inflammatory changes as manifested in the epiphyses and diaphyses of long bone? For my part, I fail to recognize one. Indeed, there are many persons for holding that most cases of periostitis, whether consequent upon trauma or arising without discoverable cause, are secondary to endosteal lesions. In the first place, it is a well-established fact in pathology, that the tissues which possess the greatest vascularity, and therefore also display the greatest nutritive activity, most readily yield to inflammation. This is likewise true of those tissues in which the greatest number of changeable connective tissue cells are found, for these most readily assume their embryonal form and activity, whence they are only one step removed from pus globules. In regard to both of these factors, the marrow, particularly of growing bone, and especially in the vicinity of the epiphyseal cartilages, must be considered as more prone to inflammation than the periosteum.

Again, it is within the experience of every observer, that intense pains in a limb, with uselessness of the member, will often precede by weeks and even months the development of perceptible changes in