anterior muscular, and dip through the sclerotic, near the corneal limbus to join the great circle of the iris. If these are congested they form an indefinite pinkish zone close to the cornea. The vessels are seen through a considerable thickness of semi-transparent tissue, and hence are not visible as separate entities, but rather as a mere blush, confined to the region of the vessels' entrance. The depth at which the vessels lie prevents them being emptied by light pressure, and the pinkish zone remains intact when any overlying vessels are emptied.

Too great stress cannot be laid upon the differential diagnosis of these conditions. The superficial injection is usually a trivial matter, the deep is often the first warning of serious affections of the globe. For this reason it is well to restate the points of difference in a tabular form, to crystallise, as it were, our knowledge round the two points.

In superficial, conjunctival, injection

1. The colour is bright scarlet red.
2. The individual vessels can be seen.
3. The injection is deepest away from the cornea.
4. The vessels can be emptied leaving the sclerotic white.
5. There are often flakes of mucus in the conjunctival sac.

In deep, ciliary injection

1. The colour is pinkish.
2. The individual vessels cannot be distinguished.
3. The injection is confined to the circumcorneal zone.
4. The vessels cannot be emptied by pressure.
5. There are no flakes of mucus in the conjunctival cul de sac.

By careful attention to these points the nurse will readily learn to distinguish between the superficial and deep injection of the globe, at a glance.

The points in which the ophthalmic surgeon is at a disadvantage are all concerned with sepsis.

The conjunctiva, as will be remembered from the anatomical introduction, is thrown into folds and pits, and these form strongholds for bacteria. The results of the bacteriological examination of the conjunctiva of healthy persons, obtained by different observers, are very variable, but there is considerable evidence now to show that the membrane has marked resisting power. It is, however, clear that there are in many cases pathogenic organisms in the conjunctival sacs waiting an opportunity to develope.

We cannot apply antiseptics to the eye to sterilise the part previous to an operation in the same way that the skin can be sterilised; the delicate conjunctiva would be destroyed if subjected to the same treatment as is required to render the skin aseptic; and the means that we can use are certainly insufficient to remove all the bacteria. It is certain that any antiseptic sufficiently strong to have any useful effect on the micro-organisms would have a most injurious effect on the eye. The only method, which can be employed, is copious flushing of the conjunctival sacs with sterile fluid. It has been found by repeated experiment that weak saline solution is the most useful for this purpose, being less irritating to the conjunctiva than even simple boiled water. A weak solution of boric acid is almost equally serviceable. Any strong antiseptics must be entirely avoided.

The question of a- and antisepsis is yet to be decided amongst ophthalmic surgeons. There is, however, little doubt that eventually the aseptic method will triumph.

Dr. McGillivray, of Dundee, some years ago, read to the Ophthalmological Society a paper on the aseptic treatment of wounds, which presented an admirable survey of the whole subject. He had examined the conjunctival sacs for bacteria in certain cases. The face and eyelids of the patient were carefully washed, and the eyes carefully bathed with sublimate solution, 1-10,000, thrice daily for three days. The tear sac was syringed with sublimate solution, 1-5,000, on the evening preceding the investigation, and immediately before the experiment was made, the conjunctiva was carefully flushed with the same solution, and the lids rinsed and washed.

A small platinum loop was then passed over the conjunctiva; then with the contents, a tube of broth was inoculated. In only about half the cases did this remain clear. Forty-eight hours later, at the time of the first dressing, the conjunctival secretion was again examined in the same way, and now no tube remained sterile; all showed the presence of various micro-organisms. Dr. McGillivray holds that these later micro-organisms were probably lying hid in the deeper tissues, and that the mechanical flushing rather than any antiseptic property of the fluids used in the preceding treatment was responsible for the success in rendering the conjunctiva free in the successful cases. The question of preparation for cataract extraction and other operations will have to be dealt with again at a later date.

Another point of great importance is the fact that some of the tissues of the eye have no blood-vessels, and comparatively little resisting power. If sepsis has occurred, and the vitreous or cornea inoculated, there is little chance of the eye being saved. Suppuration spreads freely along the lymph spaces, and the whole speedily becomes a mass of pus—drainage of vitreous wounds is impossible.

Lastly, many of the patients are old and en-

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