post mortem. In any case I should imagine that such lesions, if present, would have caused some symptoms during life. In Case 1 I have failed to find any such nervous symptoms on careful examination.

Butlin regards osteitis deformans as a chronic inflammatory condition. On microscopic examination sections of the bones showed the Haversian canals wide, with the walls eaten out and rough, the so-called Howship's lacunae, which he considers characteristic of bone inflammation; the canals also showed lesions analogous to chronic inflammatory disease.

Lancereaux suggests that the new bone formation is an attempt at reinforcement of the long bones which have been weakened by absorption. Its distribution around the entire circumference, however, differs from other instances of compensatory growth, as seen in rickets, where the reinforcing bone is developed on the concave side of the shaft.

The association of cancer with osteitis deformans is interesting. Of Paget's 5 cases, 3 died from cancer: in two of osseous growths, in the third an epithelioma of the dura mater. Butlin states that sarcomata occurring may be accounted for as follows: The condition of the bones is attended by the formation of a large quantity of material rich in cells which is prone to sarcomatous degeneration, especially when, as in osteitis deformans, this material remains cellular and stored within the bones.

Blair Bell believes that the amount of calcium salts present in the blood is regulated by some internal secretion, and suggests the thyroid. Is it possible that the deposition of such salts is regulated in a like manner, and the derangement of that mechanism causes the trophic changes in the osseous system?

REFERENCE.

¹ *Nouvelle Iconographie de la Salpêtrière.*

A. DANGER ARISING FROM THE USE OF PLATED INSTRUMENTS IN OPHTHALMIC OPERATIONS.

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HAVING recently had the misfortune to lose an eye from acute panophthalmitis after extraction from a complication I am inclined to think is unique, I trust this report may be of value as a warning to others.

A. B., aged 73, was admitted to the Hull Royal Infirmary on February 15th, 1909, with ordinary senile cataract. He was a perfectly healthy old man, with no trace of catarrh or mucocoele. The eye, as is my custom, was cleaned and covered with a carbolic pad the night previous to the operation, every usual aseptic treatment was carried out during and after the operation, which was performed on February 19th, and was uncomplicated throughout.

On the following morning (February 20th) the lids were somewhat puffy, but not more so than is frequently seen as the result of pressure of the speculum; nevertheless, there was a slight mucous discharge, and the cicatrix did not look perfectly healthy.

On February 21st the eye was in a state of acute panophthalmitis. He was ordered leeches and perchloride irrigation every two hours; on February 22nd the galvano-cautery was freely applied to the cicatrix; nevertheless the pain and distension of the eye with pus became intense during the day, and the house-surgeon did paracentesis during the night, with great relief to the patient. On February 23rd the eye was excised.

Early on the morning of February 23rd, before the eye was excised, a bright foreign body was noticed during an irrigation floating away with the lotion, and was fortunately secured by the nurse.

This turned out to be a piece of plating measuring about 1.5 mm. by 1 mm., and clearly came from some instrument. I therefore examined the forceps and de Wecker's scissors, and found a corresponding deficiency of the plating near the hinge of the scissors, and a second larger strip almost detached. On inspecting my other plated instruments, some also showed signs of the plate peeling off.

I assume that during the iridectomy the fragment had dropped unseen into the anterior chamber or cicatrix and caused the panophthalmitis.

The question naturally arose how this septic condition

occurred, everything having been thoroughly sterilized and every aseptic precaution having been carried out, especially as it has been stated that a copper foreign body in the anterior chamber never causes suppuration of the vitreous. I might add that all instruments after cleansing are placed in pure alcohol.

Could the carbonate of soda in the boiling sterilizer, the 20 per cent. carbolic in the instrument dish, or the alcohol, have had anything to do with the cause of the separation of the plating?

Being by chance at the Royal London Ophthalmic Hospital, among others I mentioned the case to Mr. Bishop Harman. He suggested that a fault in the copper-nickel plating in the presence of a saline solution might set up galvanic action; this would explain the separation of the plating and also the subsequent inflammation produced in the eye. He therefore kindly undertook to submit the fragment to an expert Cambridge physicist, who reported "that he thought that pieces of double metal like this would very much strengthen the electrolytic action if they got into the saline fluids of the eye, and can quite believe that it would produce much greater inflammation than either metal singly. The strength of the action would depend somewhat upon the electro-magnetic force of a copper-nickel couple in the salt solution, but even if this were small the fact that the two metals are in actual contact would, of course, produce a comparatively strong current."

Since then Mr. Bishop Harman has obtained more such scales of plating and submitted them to Dr. Crocker, of the South-Western Polytechnic Institute, Chelsea, London, who reports:

The electro-magnetic force of nickel and copper electrodes in normal saline solution is 0.02 volt. When the electrodes are placed in perchloride of mercury solution, and the circuit closed, calomel deposits pretty readily on the nickel and mercury on the copper. It seems probable that the effect was primarily due to the action between the couple itself and the organic fluids of the eye, judging by the ease with which the couple corrodes near the surface of the liquid, in air.

These reports appear somewhat conclusive as to the cause of the peeling off of the plating, and the subsequent acute panophthalmitis, and I am much indebted to these gentlemen for them.

That the peeling off of the plating on steel instruments (although, as far as I am aware, not hitherto commented upon) is not so uncommon as it would appear, is proved by the findings of Mr. Johnson Taylor (Norwich) and my colleague, Mr. Roe. When I mentioned this case to them they inspected their instruments, and in each case parts of the plating on pairs of de Wecker scissors were found either partly or almost completely detached.

In conclusion, as a warning, I will suggest to all using plated ophthalmic or other instruments to examine them thoroughly prior to use, and I much doubt the advisability of ever using such instruments again.

Probably most ophthalmic surgeons of experience can recall cases of acute panophthalmitis following extraction, which they have been absolutely unable to explain. This case may suggest a possible cause of, what would have been in my case, a painful ignorance, had not my nurse detected the foreign body.

The spot in the square is the exact size of the detached piece of plating.

SEVERAL hospitals benefit largely by the will of the late Mrs. Charlotte Sarah Greenhill, of Norfolk Square, W. The Royal Ophthalmic Hospital, City Road, and the Children's Hospital, Paddington Green, are each given one-sixth of the residuary estate, and the Royal Free Hospital two-sixths. As the total residue estate appears to be over £100,000, the amounts which these institutions are likely to receive are very considerable. In addition, the Royal Free Hospital receives a direct bequest of £2,000 and the Children's Hospital one of £1,000. Like sums also go to the Middlesex Hospital and the West London Hospital.