

and enclosed in a very delicate shell. The only constituents of human fæces with which they can possibly be confused are the ova of oxyurides and certain psorosperms, which are very commonly to be found in anæmic native patients. From the former they may be distinguished by their larger size, oxyuris ova measuring only $\frac{1}{400}$ inch in length; by the ova of this parasite being flattened on one side only, and by their generally containing a well-advanced embryo: while psorosperms may be distinguished by their irregular size and shape, by far the larger proportion being very much larger than the ova of any parasite for which they could possibly be mistaken.

The time which elapses between the deposition of the fæces and the hatching out of the embryos varies a good deal with the temperature of the air and the supply of oxygen. At average temperatures they hatch out the second day: as minute worms 0.085" in length by 0.005" at their thickest part. The intestinal canal is well developed, the pharynx exhibiting two dilatations or bulbs, the hinder of which is in a constant state of pulsation. There is, however, no indication whatever of the generative organs.

Under normal conditions, it is obvious that the little nematodes will find themselves domiciled in the fæcal mass of their birthplace; and the second great point to understand is that this and fouled earth are their only natural habitats, removal from which will at once stop their further development, and ultimately result in their death.

Owing to this, the continuous observation of any individual specimen from birth to maturity is a matter of impossibility, and a correct idea of the process can only be gained by the frequent examination of a number of individuals taken at various stages from a large cultivation.

Microscopical examinations of these organisms can only be conducted when they are immersed in water, and, although they are wonderfully tolerant to all sorts of adverse influences, there is, so far as I can see, no condition more hostile to them than this. In water they become sluggish, get coated with a deposit of granular matter, and slowly die. And this process has been made the subject of elaborate papers, describing the "encapsuling and calcification" of the embryos. It has, however, no more to do with the normal life history of the worms, than the change, of a corpse into adipocere is in that of a man—for it is not even a part of normal *post-mortem* changes.

It is owing to the overlooking of this second point that previous investigators have entirely failed to follow out the natural history of the free stage worms.

(To be continued.)

A Mirror of Hospital Practice.

A CASE OF MINERAL OR CALCAREOUS DEGENERATION OF THE CRYSTALLINE LENS.

BY ASSISTANT-SURGEON H. CHATTERJEE,

Barabanki.

MUSST. ZAHURAN, an elderly Mahomedan female, aged about 50, came to this hospital with a view to seek advice for total failure of sight in both her eyes. The patient appeared otherwise to be in a fair state of health.

Previous history.—About 20 years ago the patient went on a pilgrimage to Mecca. Six years after her settling there, she got an attack of some nervous disease (probably facial palsy). Previous to this she had led a fairly healthy life. She consulted with some Hakims of Arabia about her malady, and was subjected to a prolonged and repeated course of antiphlogistic and depressing treatment. Bleeding was several times had recourse to. This course of treatment, though resulting in cure, proved worse than the disease itself. It seriously undermined her health and brought on an impoverished state of blood and increasing debility and interfered with the proper nutrition of the body. This weakened state of her health proved sufficient to induce failure of her sight first in one and then in the other eye. The process had been very slow and occupied a period of four years to reach to this extreme. Pain about the eye and any other sign of deep inflammation had never been noticed by the patient.

Present state.—On looking at her eyes here and there red streaks of conjunctival vessels were seen on the sclerotic, the eyes were a little watery and a slight mucous discharge was seen at both the canthi; tension in the right eye was = T1 and in the left normal; the anterior chambers were not shallow, but posterior synechia was discovered in both the eyes. The lens in the right eye presented a somewhat peculiar appearance, the inner half of it was of a dirty grey colour, and the outer half seemed as if it was covered with a blood clot advanced in the process of absorption. The left cataract presented a whitish yellow appearance. The pupil in the right eye was quite irregular; with the aid of a few drops of atropine, part of the lower and inner segments was dilated. The left pupil was transversely oval with constriction in the middle.

From a consideration of the above facts, the case did not seem to be a favourable one, and the relatives of the patient were informed accordingly. This discouraging statement made her leave the hospital. After a week or so the patient

again returned and insisted repeatedly on the adoption of some operative measure or other, and thus render her the remotest chance of getting some sight if any existed. Accordingly Dr. E. A. W. Hall, M.B., I.M.S., the Civil Surgeon, undertook the operation for cataract by a corneal incision and an iridectomy on the right eye, leaving the left eye to be dealt with on some future occasion only if any hopeful result attended the present manœuvre. The eye was opened on the sixth day. Unfortunately, the case ended in failure, though the eye was in no other way damaged. Beyond a slight perception of light, of which there was none at all before the operation, no other improvement was observed.

The lens in this case had completely undergone mineral degeneration; the lens capsule and the lenticular matter were both calcified. This presented a stony hardness and the brownish part above alluded to, which appeared like a portion of absorbed blood, was nothing more than a mass of this degenerated lens. The capsule and the substance of the lens were inseparably blended with one another.

Remarks. — "That which interferes with the nutrition of lenticular tissue" is the chief cause of producing cataract. This very failure of nutrition forms also the principal factor in the etiology of the calcareous or mineral degeneration. From this it becomes doubtful whether the degeneration in this case is primary or secondary to any other forms of cataract. Taking into account the conditions under which the least provocation in any shape, in an impoverished constitution causes the crystalline lens to lose its transparency, and also the considerable interval of time that had been allowed to run on after the total blindness followed, before any proper advice was sought for, the probability of its being a secondary affection is established.

In conclusion, I have to say that my only apology in giving the details of this case publicity is, that in all the surgical works that lie within my reach at present, I could not discover any mention of this kind of cataract in their classifications; neither in the practice of Dr. Hall nor in my own short medical career has any case come under our observation, and hence I consider this will prove of some interest to the readers of this journal. I earnestly hope that my professional brethren will favour me with some hints and opinions on this question.

THE EFFECTS OF QUININE ALONE AND COMBINED IN THE TREATMENT OF AGUE.

BY SURGN.-CAPT. D. M. DAVIDSON, M.B.,
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DURING 1891 malarial fevers were extremely prevalent among the prisoners in the Sialkot

District Jail, there being no less than 426 admissions for ague alone out of an average strength of 501. Towards the end of the year observations were made on 187 cases with a view to studying the effects of quinine given alone and combined.

Of these 187 cases in 34 or 18.2%, the fever lasted up to the 2nd day; in 88 or 47.1% up to the 4th day; in 43 or 22.9% up to the 8th day; in 14 or 7.5% up to the 12th day; and in 8 or only 4.3% beyond 14 days; thus in no less than 88.2% of the total the fever lasted up to the 8th day.

The following table gives the result of the treatment employed:—

Treatment.	Total treated.	Up to 2nd day.	Up to 4th day.	Up to 8th day.	Up to 12th day.	Beyond 14 days.
(1) R Quinine 20 grs. per diem.	48	16.7	41.7	20.8	12.5	8.3
(2) R Quinine gr. vii. Camphor gr. i. Ammon. Carb. gr. v. Pulv. Ipecac. gr. i. Sig. one powder t. d. s.	49	12.2	51	24.5	10.2	2.1
(3) R Tr. Jaborandi m. x. Sig. to be repeated every ¼ hour till diaphoresis occurs and then quinine to be given, 20 grs. per diem.	45	17.8	51.5	22.2	6.7	2.2
(4) R Quin. Sulph. gr. ii. Pulv. Digit. gr. ½ Pulv. Opii. gr. ½ Ft. Pil. M. Sig. one pill t. d. s.	45	26.6	44.6	24.4	NIL.	4.4

It is evident from this table that quinine alone gave the worst results; quinine digitalis and opium the best. By the former 58.4% cases were cured by the 4th day, compared with 71.2% by the latter.

While the results obtained by the other two prescriptions are intermediate being in order 63.2% and 69.3%.

Taking the results of all cases cured by the 8th day the figures are in order:—

(1) 79.2%	(3) 91.5%
(2) 87.7%	(4) 95.6%

It might be contended that the cases treated by the last prescription may have been more favourable than those treated by quinine alone,