RARE APPEARANCE OF CLONORCHIS SINENSIS IN ENGLAND

By STANFORD HOWARD, F.R.C.S.

Human liver flukes are of rare occurrence in the British Isles, and when they do make their appearance, the condition is practically never diagnosed, but only found accidentally at operation.

The following case is of interest.

Mrs. E. S., age 50, has lived all her life in South Wales and England and has never been abroad. She came to my out-patients on 25.7.41 complaining of jaundice. She had been perfectly well up till 6 weeks before, but then began to lose weight and felt weak and tired. One week before she was told by her friends that she was looking yellow and she herself noticed that as the days passed she was developing an increasing depth of colour. She had no pain, and only for one day had she any indigestion. She had become constipated for 3 or 4 weeks. She noticed that her urine was very dark and getting darker. She had never been jaundiced before. Her appetite was good.

On examination the pulse was 72, the temperature 99.4 and respirations 20. The tongue was a little coated. She was deeply jaundiced. The abdomen was lax and no tenderness was complained of. Slight resistance was felt in the right hypochondrium and a faint suggestion of an enlarged gall bladder. The urine was heavy with bile.

Van den Bergh’s reaction was carried out and showed a strongly positive indirect result. The quantitative estimation showed 3.5 units per 100 c.c. In spite of the indirect result I felt that there was more in the case than a purely haemolytic jaundice and decided to operate.

The patient was given N₂O and O₂ with ether and an upper right paramedian incision made. The gall bladder was seen to be distended and contained numerous stones. Cholecystectomy was performed. The common bile duct did not appear to harbour any calculi, but felt indurated at the point of entry of thecystic duct. The common bile duct was then opened below this point and a probe was passed easily into the duodenum. It was noted that no bile appeared on opening the common bile duct. An attempt was then made to pass the probe upward into the common hepatic duct, but it would not pass beyond the entrance of the cystic duct. The incision in the common bile duct was accordingly extended upwards and revealed a complete fibrous stenosis of the common hepatic duct at the junction with the cystic duct (see diagram). The common hepatic duct was then opened and a gush of bile occurred. The bile was coloured, but was paler than normal. It could not, however, be described as white bile. When, after mopping up, the hepatic duct could be seen clearly, a curious disc-like body was noticed lying in it. This was lifted out with a pair of forceps and examined. In appearance it was greenish brown in colour, about the size of a waistcoat button. It was rubbery in texture and slightly curved on its long axis. I was unable to recognise it and accordingly sent it for microscopic section. The next step in the operation was to disseyt away the fibrous stenosis of the duct in order to re-establish continuity, a split rubber tube was then inserted with one limb in the common bile duct and one in the common hepatic duct. Rutherford Morrison’s pouch was drained and the wound closed.

Progress was good. The jaundice began to diminish within 5 days. Following this a steady improvement in the patient’s condition was maintained. The tube in the common bile duct, which had drained freely, was removed on the 12th day and by the 18th day the wound was healed.

Meanwhile the specimen sent to the pathological laboratory had caused something of a stir. Curious epithelial structures had been noted and not recognised. Finally the mystery was elucidated and the specimen rightly classed as a perfect example of Clonorchis Sinensis.

A search of the faeces revealed the presence of numerous ova. A blood count showed an absolute increase of eosinophils beyond the normal limits. Estimation of the fat content of dried faeces was carried out and showed an increase over the normal.

The pathological report read as follows:

August 12, 1941. “Gall bladder packed with up to 60 faceted stones of 0.7 cm. average diameter and many smaller stones, also two larger. Much bile stained mucoid and granular material intermingled, mostly cholesterol with very little pigment. Outer coat of gall bladder oedematous, inner coat fibrous. Lining brownish red and pitted by pressure of stones.

Microscopic: Chronic cholecystitis associated with cholelithiasis. Much fibrosis of wall at
neck of gall bladder. Epithelial lining irregular, but presenting no evidence of malignant change. Tissue removed from common hepatic duct macroscopically and microscopically a liver fluke, viz. Clonorchis Sinensis. Length 1.1 cm., width 0.7 cm., thickness 0.1 cm. Slightly rough.

Ova 30 mu suggesting morphology of clonorchis ova with typical operculum. No ova in gall bladder mucosa.

Once the condition was recognised active treatment was commenced. This consisted in the injection of doses of 2 c.c.s. of collosol antimony. The first injection was given on the 31st day after operation and repeated at 3-day intervals for 6 doses. She was then allowed to go home, and after a week a second course of 6 injections was given. Meanwhile the faeces were examined from time to time. Briefly the result was as follows:

9. 9.41. Ova still present but less plentiful.
7,10,41. No ova seen.

The patient has remained well since.

Clonorchis Sinensis was first described by McConnell in 1874. Its distribution is confined to Japan and China. Its size varies from 1.1 cm. to 1.9 cm. in length. It is a true hermaphrodite having a uterus and ovaries with a pair of branched testes lying posteriorly to the uterus. The eggs are pear-shaped with a well-marked operculum at the narrow end with a sharply projecting brim. Diagnosis is usually made by discovery of the ova in the faeces.

The life history of Clonorchis requires two alternative hosts for its completion. The ova in the human faeces infect a fresh-water snail, either the Bithynia Fuchsiana or B. Longicornus or the Parafossilurus Striatus. The ova contain myricidia which develop through rediae into young cercariae in the snails. These cercariae escape by rupture and enter various fresh-water fish. Man is again infected by eating such fish uncooked. The cercariae pass from the small intestine into the portal vein and settle in the liver, where they develop into the adult Clonorchis, and the same process is repeated.

The pathogenicity is varied, mild cases occur without symptoms. In severe cases the liver
is enlarged and studded with white vesicles, these being the thickened walls of bile ducts which are distended with eggs, parasites or both. The liver cells atrophy. Considerable fibrosis develops throughout the biliary system, and fatty degeneration occurs. Carcinoma not infrequently supervenes.

From the study of the life history it will be seen that three essentials are necessary before the conditions can become endemic. These are, the easy access of ova-bearing faeces to fresh water, the presence in that water of snails of a particular type, and finally the habit of eating uncooked fish. These three factors are only present in China and Japan, and even then only in certain fairly restricted areas. Thus the presence of one isolated case in this country is not in the least likely to cause infection to a single other human.

Sir James Walton reported the presence of Fasciola Hepatica, one of the other liver flukes, which was accidentally discovered by him in the common bile duct of a female patient. He tells me that he was unable to discover the source of the infection.

I have been at some pains to find out why these sporadic cases occur, and with the help of one of the officials of the Ministry of Food, to whom I am most grateful, have elicited the information that licences were granted for the import of small quantities of dried fish from China by the Board of Trade, merchants in Hong-Kong being named as the consignors. The imported fish was distributed in this country to many places, the bulk of it going to Soho. This renders the evidence fairly complete as to how the infection most probably occurred. The imports ceased in May 1940. The cercariae remain viable in dried fish, but cooking kills them. It is conceivable that my patient ate a piece of the uncooked fish in a salad, and became infected in that way.

The following is the detailed analysis of the white cells of the blood:

26.7.41. Total white count, 5,000 per cubic mm.
- Polymorphs: 45 per cent.
- Eosinophils: 7 per cent.
- Lymphocytes: 39 per cent.
- Monocytes: 9 per cent.

Haemoglobin, 80 per cent. Average diameter of red blood corpuscles, 7.2 μ (within normal limits).

23.8.41. Total white count, 6,000 per c.mm.
- Polymorphs: 39.4 per cent.
- Eosinophils: 11.2 per cent.
- Basophils: 1.4 per cent.
- Lymphocytes: 40 per cent.
- Monocytes: 8 per cent.

The above figures were obtained from the counting of 500 cells.

From this it will be seen that in 1 c.mm. of blood there were 672 eosinophils. The absolute normal being within the limits of 72–300 per c.mm.

Other investigations showed bile pigment in the urine, and a negative Wassermann reaction.

Prevention of the condition naturally depends on the adequate cooking of fish. Gentian violet administered orally kills the cercariae and also may act as a cure for the disease when established. Severe cases react best to injections of emetine or colloidal antimony preparations.

In conclusion my gratitude is due to Dr. Harré, pathologist to the Willesden General Hospital, for the great care she has taken and interest she has shown in presenting a full picture of the clinical pathology and morbid anatomy of the case.

REFERENCES
3. WALTON, J. British Journal of Surgery. 1940. 27, 295.