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A CASE OF PRIMARY CARCINOMA OF THE LIVER.

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The following case seems to be worth publishing on account of its rarity in one so young.

Though its interest is largely for the pathologist, it also serves as a reminder that, even in these days of specialization and laboratory examinations, diagnosis can still rest on simple clinical examination.

Private L., aged 21, was admitted to hospital on July 31 for investigation on account of vague attacks of abdominal pain since June with occasional passage of blood per rectum.

He stated that his previous health had been good. His general appearance was healthy; he was well nourished, there was no anæmia, he had a clean tongue and good appetite.

A barium meal showed no intestinal abnormality and no cause for bleeding was discovered on rectal examination.

Palpation of the abdomen, however, revealed a firm swelling with an irregular margin which moved on respiration in the left hypochondrium. The lower margin of the liver was also enlarged on the right side. The tumour in the left side of the abdomen was considered to be probably the spleen, and this was supported by a differential blood-count, which showed 18 per cent myelocytes. The total white cells were 15,000 per cubic millimetre.

August 13: No marked change. His temperature had occasionally risen above normal and at times he suffered from vague pains in the thighs. Wassermann negative.

August 30: An X-ray showed that the upper surface of the right lobe of the liver reached to the sixth rib in the scapular line, at least two inches above the left lobe. The lower border reached almost to the umbilicus, as also did the spleen.

A differential blood-count showed that the myelocytes had fallen to 4·5 per cent; total white cells to 10,000.

One of us, who had recently returned from leave, after studying the blood examinations was able definitely to exclude any form of leukæmia from the diagnosis.

September 4: The patient commenced to suffer from attacks of abdominal
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pain. These occurred in different places, but were more frequent in the right side and flank, and were induced by lying on the left side or extending the spine.

The liver had not appreciably enlarged, but was firmer and more easily felt. It was now apparent that what had been taken for an enlarged spleen was in reality a downward prolongation of the left lobe of the liver.

He still had a clean tongue and good appetite and as a rule slept well; but a diagnosis of carcinoma of the liver seemed the only one to account for his physical signs. Though at first tentative, his subsequent course soon made this diagnosis a certainty. The superficial abdominal veins enlarged, he had difficulty with his bowels, passing small quantities of blood and mucus, and the frequency and severity of the pains increased, so that by September 9 he needed morphia ½ grain twice daily.

Emaciation rapidly set in and bosses could be felt on the liver which was by now very tender. Jaundice did not occur until September 20, and on September 26—less than two months after his admission as an apparently healthy man—his troubles were at an end.

Autopsy.—On opening the body the liver was at once seen to be enormously enlarged. Besides descending to the level of the umbilicus it extended upwards to the 3rd intercostal space on the right side and on the left side to the 5th interspace. It was studded with stained tumours but presented no signs of cirrhosis. The lungs were collapsed and the heart pushed upwards and forward. The liver was then removed and found to weigh seventeen pounds.

On further examination no primary focus could be seen anywhere in the body and no secondary growths could be discovered.

The liver, as stated before, was studded with tumours, no one of which could be said to be primary with regard to the others. These tumours were mostly firm and bile stained, but many already showed marked degeneration and softening. The gall-bladder and bile-duct were not involved. No cirrhosis was present. The picture was one of primary carcinoma of the liver.

On cutting and staining microscopic sections the appearance was that
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of adeno-carcinoma. The tumour cells showed great anaplasia and mitosis was seen, indicating a very active malignancy and in our opinion the type was of the "liver-cell" rather than "bile duct" variety.

Primary carcinoma of the liver is at all times rare, but especially in one so young. It is divided into two varieties by most authorities—the bile-duct cell adeno-carcinoma and the liver cell adeno-carcinoma.

In the former case the carcinoma originates in the columnar or cubical lining cells of the intrahepatic bile-ducts. In these cases there is no cirrhosis and as a rule no bile staining of the tumours. Secondaries are nearly always present and it is the rarer of the two types.

The liver-cell type generally follows on cirrhosis of the liver but according to Muir may occur without this. Secondaries are rare and the tumours are bile stained. McCallum supports Muir in this description.

In this case the macroscopic features favoured the latter group and in the sections a definite resemblance to liver cells was noted in the tumours which were least degenerated. In the degenerated tumours anaplasia and the degeneration made it difficult to distinguish the cells of origin.

Whether the cells originated from liver cells without previous cirrhosis or from epithelium lining the bile-duct, the condition is rare and sufficient excuse for publishing the case.

A further point of interest on the clinical aspect is the question of pain. During the last few weeks of his life the patient suffered much pain—morphia ¼ grain had to be given four times a day—and yet during his stay in hospital the size of his liver did not increase much. On admission both lobes of the liver reached almost to the umbilicus. One would have thought that the enlarging of a normal liver to this size would have been painful, and yet he had carried on with his duties with comparatively little discomfort for weeks if not months while his liver was doubling its size.

Our thanks are due to Private G. K. Smith, R.A.M.C., for taking the photograph of the organ after removal.

AN IMPROVISED APPARATUS FOR THE ADMINISTRATION OF ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.

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This description of a simple, improvised apparatus for administering ethyl chloride for general anaesthesia is offered on account of the ease with which it can be put together out of readily obtainable materials and the success which has attended its use in some eighty cases observed.