A number of spindle-shaped cells could also be seen in most of the alveoli, mixed with the above types of cell. No fibrous tissue was observed between the cells which formed the clusters.

The blood vessels were rather scanty, ill formed and of a capillary type, and haemorrhages were present. The liver cells adjoining the margins of the tumour showed signs of degeneration. They stained badly, were granular, some were irregular and broken, and their nuclei were difficult to discern or altogether absent. Scattered among the liver cells in this region were numerous dark pigment granules and many well stained cells similar to those found in the tumour. These cells appeared to have advanced from the main growth along the blood channels; in fact, some of the vessels in cross section were seen to be packed with them.

The growth under consideration was undoubtedly malignant, and in view of the facts, first, that no evidence of a growth could be found, after a most careful search, in any of the other abdominal organs, and, secondly, of the enormous size of the growth in the liver, it may reasonably be inferred that the tumour was a *primary* growth in the liver. It is, of course, known that very large tumours in the liver may be secondary to quite small growths in other organs, but here, as already stated, no such growth could be found.

The determination of the precise nature of many malignant tumours of the liver is frequently difficult. In the present case, however, all who examined the sections of the growth were agreed that the microscopical characters were those of a mixed-cell sarcoma of an alveolar type.

Primary sarcoma of the liver is a decidedly rare growth, as the following brief summary of the literature shows. Hale-White, in 1890, recorded the fact that not a single case was met with at Guy's Hospital during the twenty years 1870-1889, both inclusive. Byrom Bramwell and Leith, in 1897, were only able to collect 25 cases, and they concluded that few of these could be regarded as true examples. Vecchi and Guerrini critically examined 45 published cases and accepted only 21 as being undoubtedly primary sarcoma of the liver. Pepere also tabulated a list of 45 cases, and Rolleston collected 32 cases in adults.

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THE OCCURRENCE OF CLUBBED FINGERS IN HEALTHY PERSONS AS A FAMILIAL PECULIARITY.

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CLUBBING of the fingers is so well known as an acquired pathological condition, especially in connexion with disease of the thoracic viscera, that its occasional occurrence in healthy persons as a familial (and doubtless also congenital) peculiarity deserves some attention. I regard the following cases as having a peculiar interest from the life assurance aspect.

In the present year I had to examine two (twin) brothers, aged 25 years, for appointments and for life assurance. Both of them showed clubbing of the fingers in both hands. The toes were not affected in the same way. In one of them (A. M. K.) the thorax was not very well developed, but the peculiarity in the fingers was slightly less marked in him than in his rather better developed brother (W. H. K.). Both of them appeared free from any visceral disease. A. M. K. had been severely wounded in the left leg during the war, but had quite recovered (from the life assurance point of view). I regarded both lives as suitable for insurance at ordinary rates. An elder brother, aged 30 years, had the same peculiarity of the fingers I was informed, but I did not myself see him. They had no other brothers and no sisters. I am not aware if the father (who died at the age of about 56 years) had clubbing of the fingers, but the mother (still living) had not.

In November, 1918, I examined an apparently healthy young Irishman (M. J. R.), aged 25 years. The only special point to be noted in regard to his condition was that he had incurred nails, with clubbing of the *fingers and toes*, on both sides of the body. This he said he had

had ever since he could remember. It was an inherited peculiarity, not associated with any thoracic or other disease. His father and three of his brothers and one of his sisters were said all to show the same abnormality—at least as far as the fingers were concerned. It may be observed that Mr. M. J. R. had been accepted in 1909 and 1911 for life assurance at ordinary rates.

There is one published record of a familial peculiarity apparently of the same kind. Von Eiselsberg,¹ in 1911, described a congenital and familial condition of the terminal phalanges in a man aged 35 years, resembling clubbed fingers in appearance. One of his grandfathers, one uncle, and one sister were known to show the same condition, which von Eiselsberg suggested might be of "lymphangiomatous nature."

I would rather not use the term "lymphangiomatous" for such cases, but would suggest that some of the isolated cases of clubbing of fingers for which no cause can be ascertained may be of the same nature, even when a history of familial occurrence of the abnormality is not forthcoming. As far back as August, 1897, I met with a man, aged 46 years, who had had typical clubbing of all his fingers—not his toes—ever since he could remember. I found no cause for the clubbing. He had psoriasis, but it was of more recent date than the clubbing.² S. West³ mentioned the case of a woman, aged 50 years, who came under treatment because she had swallowed some ammonia by mistake. Both her fingers and toes were clubbed. No cause could be found for the clubbing, which was supposed to have commenced three to four weeks previously. If this really was so the case could hardly be placed under the present category. West likewise recorded clubbing of fingers and toes in an otherwise apparently healthy medical man aged 38 years. In a third case of clubbing he could also find no cause.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

OSSIFYING SARCOMA OF VASTUS EXTERNUS.

A. W., aged 14, when first seen on March 9th, 1918, stated that for six weeks he had had stiffness and almost continuous pain in the right thigh. About a week later he noticed a small swelling just above the middle of the thigh on the outer side, which grew rapidly. There was no history of injury. He was a fine, well set-up lad; he walked with the aid of a stick, keeping the right knee slightly flexed and the heel off the ground. There was a pyriform swelling just above the middle of the thigh on its antero-lateral aspect. It was 4 in. or 5 in. long and nearly 3 in. across its upper pole, tapering downwards. The skin over the tumour was somewhat discoloured, but was not fixed at any part. The tumour itself could be moved freely on the bone. No fluctuation could be made out. There was no enlargement of the inguinal glands, and palpation of the abdomen did not reveal any swelling therein. The heart and lungs, and the urine were normal. A diagnosis of sarcoma of muscle was made. Dr. J. N. Collins operated on March 21st; a short incision was made over the tumour, and some muscle fibres had to be divided before the bony nature of the growth was disclosed. It was decided to amputate the limb. Disarticulation at the hip-joint by the anterior racket method was performed. There was little bleeding, and the patient stood the operation well. The recovery was uneventful. Three days after the operation injections of Coley's fluid were commenced and continued for six weeks; the patient then left the hospital in good condition and with the wound practically healed.

The tumour was situated in the vastus externus muscle, and appeared to be limited to it, there being a definite layer of degenerated muscle fibres over it. The deep surface was smooth and somewhat flattened. On sawing through the tumour longitudinally it was seen to be composed of cancellous bony substance, with a fairly definite outline except at its upper and lower poles, where it was