Diaphragm.—The pleural surface of the diaphragm was found to be studded with nodules varying from 1/4 inch to 1½ inches in diameter.

Spleen.—The spleen was greatly enlarged and firmly adherent to the diaphragm and other neighbouring structures, and was removed with great difficulty. On section, a very large portion was found to consist of a tumour which was growing at the periphery and in offshoots into the remaining splenic tissue. In the greater part of its extent the tumour appeared to be undergoing a process of necrosis with softening and cavity formation at the centre. When it was sectioned a thick yellowish fluid escaped from the cavity.

Liver.—The liver was firmly adherent to the diaphragm and to a large mass of tissue which occupied the epigastrium. The capsule of the organ was marked by white lines, which had a root-like appearance. A large rounded tumour, measuring 3 by 2 inches, occupied the lower surface of the right lobe. It was subcapsular and compressed the liver tissue. At only one place, however, had actual invasion of the liver occurred. When sectioned the liver had a dull, greyish colour, and at one point of the right lobe approached the nutmeg appearance.

Kidneys.—The right kidney was shelled out from its capsule, which was firmly adherent to dense surrounding tissue. It presented in a marked degree the foetal lobulation. Apart from slight hyperaemia it appeared to be otherwise normal. The left kidney was also surrounded by dense adhesions, but its capsule stripped easily, revealing the fact that the organ was also misshapen. It was sectioned, and this alteration in shape was found to have resulted from the presence of two cysts, one projecting into the other. In other respects the renal tissue appeared normal. Both suprarenals were enveloped by fibrous tissue, but otherwise appeared normal.

Intestines.—The small intestine had a greyish appearance, and its wall was thickened and oedematous. The duodenum was found to emerge from a large tumour mass which occupied the epigastrium. The large intestine was also greyish and thickened in appearance. The wall of the colon and its mesentery were finely mottled white from engorgement of the lacteals. The transverse colon was firmly adherent to the tumour mass in the epigastrium, and its mesentery was studded with small tumour nodules. When the intestine was opened the margin of the ileo-caecal valve was ulcerated, and at a short distance from it there was an ulcer, 5/8 by 1/4 inch, with dark hyperaemic margin and yellowish floor. The valvulae conniventes were whitened and fringe-like from engorgement of the lacteals. This engorgement was not so evident to the naked eye, but with transmitted light the lacteal vessels appeared markedly engorged.

Stomach.—The stomach overlay the tumour mass, and was firmly bound down to it. On removing the stomach by blunt dissection the mucous membrane was intact, save for a small commencing ulcer on the posterior wall. Judging from the mucous surfaces there was no invasion of the stomach wall by tumour tissue, but the section showed that the wall in its outer part was invaded by the tumour growth.

Mesentery.—The surface of the mesentery had a slate-grey appearance, and the lacteals were all very conspicuous. The mesenteric glands were much enlarged, and had a finely mottled yellowish-white appearance.

When the abdominal viscera were removed a large mass was exposed, almost filling the epigastrium. It was firmly adherent to the prevertebral fascia and to the diaphragm, and it extended down into the lumbar region. On closer examination it was found to be composed of smaller masses firmly adherent to one another. When sectioned the cut surface appeared white and glistening. Portions of the tumour mass were subjected to histological examination, and the following features were observed. There was a marked proliferation of the endothelial cells, which had single and occasionally multi-lobed nuclei. Larger cells of a pseudo-giant-cell type were present. Polymorph leucocytes and eosinophil cells were present, but were very few in number. The stroma was definitely increased. Sections of the stomach wall demonstrated that the inner portions, mucosa, submucosa, and most of the inner muscular coat were not involved. The greater part of the muscular wall, extending to the serous surface, displayed marked lymphocytic infiltration. Endothelial cells were observed in places. From these findings a diagnosis of lymphadenoma can be made.

DISCUSSION

In most of the recorded cases of lymphadenoma, more especially of the abdominal type, the diagnosis has been difficult, the condition being mistaken for tuberculosis, syphilis, sarcoma, and other tumours. In the present case the initial diagnosis was one of tuberculosis, and, although repeated examinations failed to confirm this opinion, it was only after histological examination of a section of the tumour tissue obtained at the post-mortem examination that the final diagnosis of lymphadenoma could be made. It is of interest, too, that while the superficial glands were not appreciably affected, the spleen showed gross involvement. This latter fact has led certain observers to recognize what they term the splenic type of abdominal lymphadenoma.

Other noteworthy points were the absence of involvement of the alimentary tract apart from the slight infiltration of the stomach wall, the relatively slight involvement of the liver, and the freedom of the kidneys from any evidence of new growth.

The analysis of the chylous fluid also revealed certain interesting features when compared with the results of similar analyses of chylous ascites obtained from cases of abdominal tuberculosis or cancer (see Table).

	Present Case (Lymphadenoma)	Tuberculosis. Boy aged 15 years	Cancerous Growths
	Per cent.	Per cent.	Per cent.
Fat	11.42	10.30	9.48
Proteins	11.57	28.78	21.68
Other organic matters	1.10	8.02	11.685
Mineral salts	7.89*	9.95	1.595
Total solids	31.98	59.15	43.795
			Loss 0.510

* 58.22 per cent. of the mineral salts consisted of sodium chloride.

As will be seen from the above table, the percentage of protein present in this case of lymphadenoma was roughly only half the amount noted in the other conditions. Protein and fat were present in approximately the same proportions, while in the other two diseases the amount of protein was much in excess of the fat. These findings raise the question of the possible diagnosis of the condition by the examination of the chylous fluid obtained from the abdomen.

We desire to express our thanks to Dr. R. M. Buchanan and Dr. W. R. Wiseman, and to Mr. F. W. Harris, F.I.C., for their assistance in the examination of specimens.

SURFACE TENSION OF SERUM IN GENERAL PARALYSIS

AN AID TO DIAGNOSIS

BY

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During an investigation of the surface tension of syphilitic serum an interesting fact was observed, which appears to throw some further light on the nature of amboceptor and tends to confirm Friedemann's view that it is a globulin soap compound. The finding may also serve as a help in diagnosis, since nothing could be simpler than the technique of its application.

By adaptation of the torsion balance capable of weighing from 1 to 500 mg., a method was devised of estimating surface tension of fluids in a direct and accurate manner—namely, by suspending a small platinum ring (about 1 cm. in diameter 0.0076 wire) by a light thread from the balance, and allowing it to float on the surface of the fluid. In carrying out the test 0.25 c.cm. of serum is

added to 50 c.cm. of distilled water in a small beaker; the fluid is drawn back into the pipette and forcibly expelled again a few times, thorough mixture being ensured. The beaker is suitably adjusted under the limb of the balance. The suspended ring is then lowered on to the surface of the fluid, the lever of the instrument evenly moved, and the reading in milligrams just necessary to make the ring part company with the fluid, less the weight of the platinum attachment, gives an accurate measure of the surface tension.

As might be expected there is considerable variation in the surface tension of serum diluted 1 in 200 in this manner, but in all persons examined so far there is a consistent variation from normal in the serum of those with general paralysis when it is inactivated at 56° C. for thirty minutes. In conditions other than general paralysis this inactivation has the effect of raising the surface tension; at any rate no definite degree of lowering is observed, while as regards the serum of general paralytics the reverse is the case.

The following tables, giving the pull-off readings of surface tension in milligrams, illustrate this difference.

General Paralysis, Wassermann Reaction Positive

	Tension in mg.		Loss on Inactivation in mg.
	Fresh Serum	Inactivated Serum	
A.	314	214	100
M.	344	311	33
C. H.	335	305	30
E. T. B.	340	310	30
T. B.	325	300	25
D. J.	330	310	20
W. H. P.	390	365	25
G. B.	330	365	25
J. W.	358	340	18
J. Br.	363	345	18

Non-syphilitic, Wassermann Reaction Negative

	Tension in mg.		Gain on Inactivation in mg.
	Fresh Serum	Inactivated Serum	
B.	234	329	35
M.	330	305	5
B.	310	310	0
F.	295	317	22
H. E.	345	345	0
D. M. N.	345	350	5
T. G.	335	365	30
S. A.	350	350	0
A. S.	345	355	10
W. N.	342	343	1
T. H. C.	370	385	15
W. S.	387	404	17

In cases of syphilis investigated up to the present showing no clinical signs of general paralysis this alteration in tension has not been observed, and consequently it may be of value as an aid to diagnosis in incipient syphilitic meningo-encephalitis, and has no doubt some relation to the stiff positives present in this condition. In high dilutions of serum in distilled water precipitation soon occurs; consequently the reading should be quickly taken after thorough mixture.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

CUTANEOUS HORN ON AN AMPUTATION STUMP

The case reported below appears to be unique. Turner¹ in 1815 described a cutaneous horn arising in a scar, but on careful search of the literature since that date no

reference to the condition in relation to an amputation was found. Rhodenburg² stated that in 13 per cent. of cases epithelioma developed at the base of the horn, but despite the long history this had not occurred in our case.

The patient, an Arab woman aged 70 years, had a cutaneous horn arising from the end scar of an amputation of the foot. This had been present for many years without special inconvenience, but recently the slightest touch on it caused her intense pain, which radiated up the leg. The amputation had been carried out in the days of the Mahdi, some fifty years previously, for Madura foot, by a native operator.

On examination there was found to be a slow septic process at the base of the horn, but no evidence of epithelioma, nor were the inguinal glands enlarged. The "ram's horn" appearance of the growth is well shown in the photograph. Reamputation was performed (by F. E. M.). A large neurofibroma was found in the base of the scar, and the nerve leading to it was followed up into the leg, crushed, and divided. The patient was discharged cured.

We are indebted to Mr. O. F. H. Atkey, C.M.G., Director Sudan Medical Service, for permission to publish this note.

F. E. MAYNE, F.R.C.S.Ed.

LAURENCE O'SHAUGHNESSY, F.R.C.S.
Sudan Medical Service.

British Medical Association

CLINICAL AND SCIENTIFIC PROCEEDINGS

CHESTERFIELD DIVISION

A crowded meeting of the Chesterfield Division was held on March 13th, when Dr. A. NIVEN ROBERTSON, chairman of the Division, presided. Dr. ROBERT HUTCHISON gave a British Medical Association Lecture on rheumatism in childhood.

Rheumatism in Childhood

Dr. Hutchison began by saying that the importance of rheumatism in childhood was chiefly due to its serious consequences and not so much to the acute infective outbreak itself. Mentioning the fact that the disease was definitely of microbic origin, he went on to outline its distribution, dealing with this under three headings: (a) geographical; (b) social; (c) age. Rheumatism in children was chiefly localized in the temperate zone, with variations in every country; thus it was common in Edinburgh and London, but rarer in some parts of the British Isles. These variations, Dr. Hutchison thought, might be due to the extent of moisture in the affected

¹ Turner, M. J.: *Monthly Journal of Medical Science*. London and Edinburgh. 1815, p. 361.

² Rhodenburg, A.: *Journ. Amer. Med. Assoc.*, 1908, li, 1326.