CASE VII

A widow, multipara, aged 47, weight 12 st. 10 lb., height 5 ft. 3 in. was first seen in January, 1930. She had a typical Ménière's syndrome for three years, beginning in the left ear, in which she was now stone deaf. The right ear had been affected for two years. She had well-marked tinnitus and frequent attacks of giddiness on turning quickly; on going upstairs, she had to cling to the rail and sometimes fell. Tinnitus, giddiness, and deafness were worse at menstruation. She could just hear a loud noise with the right ear at 3 inches distance. The Wassermann reaction was negative. Baths did no good. They did not make her sweat till she added 2 lb. of magnesium sulphate to the bath. With this treatment, however, she persevered. She now hears loud speech at 5 feet, has no giddiness, and can walk up and down stairs with ease. The baths may have nothing to do with this improvement. The course of Ménière's complex is sometimes capricious, but anyone who has read Dederding's monograph¹ would consider treatment by sweating not unlikely to help; to be a real help it would need to be used regularly and before irretrievable damage is done to the inner ear.

This treatment is as yet in the tentative stage, but these notes may suggest to others that the method is worthy of trial. It is likely to succeed only in a minority of chronic cases, though it has had good results in cases in which the usual methods had proved an utter failure and in which treatment had been abandoned. Success is more probable in the less chronic cases and in acute cases. It fails when it fails to sweat the patient. Whether magnesium sulphate is essential I do not know; it is hygroscopic and has been used in packs for chronic rheumatism. Doubling the quantity of salt to the bath seemed effectual in causing the last-mentioned patient to sweat. Treatment by the emunctories is an old-established method, but far too little attention has been paid to the skin and to the effect of sweating on the mucous membranes; probably civilized peoples sweat themselves too little and pay a price in catarrhal affections. Thirty years ago treatment by pilocarpine was tried, but had only a short vogue as "the remedy was worse than the disease." Caution must be used with baths, too. Hot baths are exhausting and too risky for elderly, weakly, and cardiac patients; ten minutes immersion may be long enough, and should be followed by a brisk towelling and a warm bed.

REFERENCE

- ¹ Dida Dederding: Morbus Menieri, *Acta Oto-laryngologica*, 1929, Supplement x.

CHYLOUS ASCITES COMPLICATING ABDOMINAL LYMPHADENOMA

BY

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The presence of serous fluid in the peritoneal cavity may be due to a variety of causes, but it is very seldom that cases are reported in which the fluid is chylous in nature. One such case came under our observation, and was considered, on account of its rarity, worthy of record.

Case History

The history of the case dates from September, 1928, when the patient, who was a young man of 20 years, first complained of weakness, tiredness, and loss of flesh. Though able for a time to carry on his work, he had ultimately to give it up on account of the weakness. In January of the following year he developed an attack of influenza, and during convalescence from this illness noticed for the first time, owing to slight pain, a fullness of his abdomen. It was not, however, till coughing and spitting became troublesome that he

consulted his doctor. From the history given, the presence of tuberculosis was suspected, but examination of the chest revealed only a few moist sounds at the base of both lungs. X-ray examination confirmed the absence of any evidence of tuberculosis of the lungs. The sputum was examined, and was found to be negative for tubercle bacilli. From this time till his admission to hospital his condition rapidly became worse. The general weakness increased, the abdomen became much more distended, and he was in consequence confined to bed.

When admitted to hospital, in the middle of May, the patient's condition was obviously serious. He appeared thin, wasted, and cyanosed, and complained of pain in his left thigh and leg. The distension of the abdomen was marked, and gave rise to considerable respiratory embarrassment. In the feet and legs there was a moderate amount of oedema. Examination of the chest was negative, save for signs of congestion at both bases, and the sputum was negative for tubercle bacilli. The heart showed no evidence of organic disease. The urine, which was diminished in amount, contained albumin. During the succeeding days the oedema present in the legs spread upwards till even the chest wall was involved, and with the increase in the abdominal swelling the breathing became more distressed.

On May 24th, 1929, paracentesis was performed, and 26 ounces of milky fluid were removed from the abdomen. The procedure afforded relief, which, of course, was only temporary, and the operation had again to be performed. Altogether the abdomen was aspirated six times, and 38 pints of fluid were withdrawn. When the abdomen was palpated just after paracentesis a hard fixed mass was felt in the epigastric region. In addition to the large mass, smaller masses were felt throughout the abdomen. In spite of these aspirations his condition gradually became worse, and he died on June 18th, 1929.

The fluid which was removed from the abdomen was subjected to chemical and bacteriological examination. To the naked eye it had the appearance of milk. Under the microscope it appeared as a fine fat emulsion, in which were observed a few red corpuscles and a few leucocytes containing fat globules. A differential cell count was performed, and the mononuclear leucocytes were found to be slightly in excess of the polymorphonuclear leucocytes. Stained smears failed to reveal acid-fast bacilli, and no growth resulted from inoculation of culture media. A guinea-pig was inoculated with the chylous fluid, and when killed at a later date was found to be normal.

The result of the chemical analysis was as follows:

Fat	...	...	...	...	...	11.42	per cent.
Proteins	...	...	...	...	...	11.57	"
Other organic matters	...	...	...	...	...	1.10	"
Mineral salts	...	...	...	...	...	7.89	"
Total solids	...	...	...	...	...	31.98	"

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

Necropsy

The body appeared very emaciated. Post-mortem mottling was most marked over the right side of the chest. The abdomen was greatly distended, the linea alba being very marked, especially on the right side. When the body cavities were opened they were found to contain large quantities of milky fluid; 140 ounces were recovered from the abdominal cavity, 50 ounces from the left pleural cavity, and 36 ounces from the right pleural cavity. The fluid from the abdomen seemed to be of a more yellowish colour than that collected from the pleural cavities.

Heart.—The pericardium was found to contain about 6 c.cm. of straw-coloured fluid. The heart was small and in a state of contraction. The surface of the organ presented a whitish appearance, and the blood vessels were outlined by a white marginal line on each side. The heart muscle in its cut surface presented a finely streaked appearance due to the presence of delicate white lines radiating unevenly towards the surface. The muscle itself did not assume the normal reddish appearance, being dull and glistening and slightly brownish in colour.

Lungs.—Beyond a slight degree of hyperaemia the lungs appeared to be normal. The left lung was slightly adherent at its base, but no evidence of involvement of the bronchial glands was discovered.

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.

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SURFACE TENSION OF SERUM IN GENERAL PARALYSIS

AN AID TO DIAGNOSIS

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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