

Diagnosis.—The past history did not furnish much enlightenment and was rather confusing. The patient had never been rugged since puberty, and menstruation had always been extremely painful and profuse. During the preceding nine months the interval had been reduced from four to three weeks, and the dysmenorrhea exaggerated. The onset of the irregularity followed an attack similar to the present one, and was definitely caused by falling heavily when attempting to jump over a ditch. Since then, at intervals of two or three months, similar though milder attacks had occurred, lasting only a few days.

She denied the possibility of venereal infection, and this assertion was substantiated by the presence of an intact hymen. In view of the pronounced gastric manifestations, the fever and rapidity of the pulse, together with the fairly well localized pain and associated muscular spasm and rigidity, the possibility of involvement of a left sided appendix was entertained.

Torsion, rupture or hemorrhage from or into an ovarian cyst were also considered as possible diagnoses.

Course.—As the diagnosis was in doubt, the rather hazardous course of temporization under close observation was decided on. During the following five days the temperature ranged from 99 to 100, while the pulse rate remained rather consistently around 100. Some nausea persisted, as did an area of localized tenderness of some intensity in the left hypogastrium. As there was no appreciable improvement in the symptoms, operation was decided on.

Operation and Result.—February 11, a median laparotomy incision was made below the umbilicus. A small amount of blood-tinged serous fluid was found in the pelvis. At the outer extremity of the left tube a large hydatid of Morgagni was discovered which approximated, in size and shape, a large olive. It was purplish black and had a pedicle $1\frac{1}{2}$ inches long. A twist of one complete turn was noted in this when the structure was elevated, but it may be assumed that a greater degree of torsion may have existed and that partial unwinding had occurred spontaneously or as a result of exploratory manipulation in the pelvis. The cyst was quite tense, and over its surface were numerous engorged veins. The pedicle was ligated and the cyst removed. Both ovaries were found enlarged, owing to numerous atretic follicles. Both ovaries were partially resected, and an appendix, in the usual situation and otherwise normal, was removed. The abdominal cavity was carefully explored and no other pathologic condition found. The operation was completed with a dilatation of the cervix. Convalescence was uneventful. Subsequent menses have been regular and practically without discomfort. The patient's general health improved markedly, and she gained 10 pounds in five weeks. The cyst was oval, dark purple, and measured 2.5 by 2 cm. The remnant of its pedicle was 2.5 cm. long.

CONCLUSION

I simply wish to add torsion of the pedicle of an enlarged hydatid of Morgagni, which is an otherwise harmless structure, to the list of unusual causes of acute abdominal disturbance occurring in the female.

Feeble-mindedness.—The report of the Kansas Commission on Provision for the Feeble-minded, dated Jan. 1, 1919, says that, based on the lowest conservative estimate, there are 7,500 feeble-minded persons in Kansas, and less than one tenth of them are cared for at the institution at Winfield. It is also estimated that there are at least 1,500 feeble-minded children in the public schools of the state, where they are not receiving the type of training that will fit them to be partly self-supporting. It is recommended that the way to stop the increase of the feeble-minded is to transfer them to the custodial care of the state before they reach the age of adolescence, and also to place the feeble-minded men and women of the state in colonies especially provided for their care. The report contains discussions of various aspects of the problem of the feeble-minded, and offers a program for handling it.

Clinical Notes, Suggestions, and New Instruments

REPORT OF AN UNUSUAL CASE OF BACTEREMIA

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A. J. L., aged 18, who had a neurotic temperament, reported, Sept. 14, 1918, complaining of vertigo when up and about. The previous personal and family history was negative. Examination disclosed a slightly enlarged spleen and prolonged expiration over a small area under the right clavicle. The temperature was 104 F., the pulse 108, and the white blood count 23,000. There were 85 per cent. polymorphonuclears. No plasmodia were found in the blood, and the blood culture was sterile.

During the first two weeks the temperature ran a very irregular course, ranging from 97 to 104 F., without sweats. Typhoid fever, malaria and tuberculosis were eliminated, as the possible underlying conditions by appropriate clinical and laboratory findings. Two blood cultures made during this period produced no growth.

A blood culture, September 29, produced a gram-negative diplococcus, which was plated on eosin brilliant green, blood agar, nutrient agar and litmus lactose agar. No growth developed on any of these mediums except the blood agar, which produced an abundant growth of pure gram-negative diplococci. These organisms varied in size, shape and staining characteristics. Fifty c.c. of antimeningococcic serum were administered intravenously at this time.

TITRATION AGAINST DILUTED SERUMS

	Dilutions			
	1:50	1:100	1:200	1:400
Patient's blood	+++	+++	++	+
Rockefeller polyvalent	++	++	+	—
Rockefeller regular type	+	—	—	—
Rockefeller para type	++	++	+	+

By the Krumwiede method of slide agglutination, a pronounced clumping occurred with the Rockefeller polyvalent serum. This clumping occurred in gradually diminishing intensity as the culture was attenuated by subculturing.

Subcultures were made on plates with these results: nutrient agar, —; serum glucose, + (with slight acidification); serum maltose agar, +; serum levulose agar, —; blood agar, +. There was no growth on plates of various mediums left at ordinary room temperature. Andrade's indicator was used for determining acidification in the serum agar tubes.

An emulsion of the growth from the serum agar was standardized at about 5 billion to the cubic centimeter. This was titrated against diluted serums as shown in the accompanying table.

October 2, the patient developed an exaggerated knee jerk, and ankle and patellar clonus. Kernig and Babinski reactions were absent. The temperature was 103 F., the pulse 136, and the respiration 19. Twenty c.c. of spinal fluid were withdrawn and 30 c.c. of antimeningococcic serum were injected into the spinal canal. The fluid withdrawn was sterile, the cell count was 20 per cubic centimeter, and the globulin test was negative. For two days the condition of the patient was much improved.

During the next ten days about 300 c.c. of various makes of antimeningococcic serum were given into the veins, muscles and spinal canal, none of which produced the slightest benefit. The temperature ranged from 97 to 103.4 F., and the pulse remained above 110.

October 16, a blood culture was sterile, and 0.3 c.c. of an autogenous vaccine, containing about 1 billion organisms to the cubic centimeter, was given intramuscularly. This was followed by a slight reaction and reduction of the temperature. The vaccine was repeated at forty-eight hour

intervals, the dosage being rapidly increased up to 1.25 c.c. This was reduced to 1 c.c. and was continued up to November 4. The temperature remained normal after October 31. There was a remarkable absence of subjective symptoms throughout the course of the disease. Vertigo was the only symptom complained of and it was with difficulty that the patient was kept in bed.

Convalescence was uneventful and rapid, though the pulse remained above normal up to the last of December.

SUMMARY

The interesting features of the case are: (1) The absence of subjective symptoms; (2) the presence in the blood stream of an organism of this type without production of more pronounced meningeal symptoms; (3) the slight reaction of the organism on the carbohydrates, its irregular agglutination reactions, and the absence of its specific antibody in all of the serums employed, and (4) the prompt reaction of the patient to the autogenous vaccine.

The conclusion reached by us and concurred in by Dr. K. F. Meyer of the Hooper Foundation, San Francisco, was that the infecting organism was a parameningococcus.

COLORIMETRIC STANDARDIZATION OF THE CELL SUSPENSION IN THE WASSERMANN REACTION

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Of the five factors entering into a complement fixation reaction, such as the Wassermann, one of the most important to standardize is the amount of cells to be hemolyzed. On this quantity, the erythrocytic mass, is based the amount of hemolytic amboceptor to be used, and from these the quantity of complement is derived by titration. The preliminary titration of the amboceptor-complement balance required for hemolysis determines the quantity of complement which may be fixed by an antibody contained in the serum used in the main test. Variations, therefore, in the quantity of cells to be hemolyzed directly affect the diagnostic value of the fixation reaction.

This is not true of a "loose system" when only strong positives are sought, in which many units of both complement and of amboceptor prevent the possibility of fixation from anything less than an overwhelming amount of antibody. In such tests delicacy in the preliminary titrations can be greatly diminished.

At present there is a source of confusion in that many laboratories are using as controls, or even substituting for the Wassermann reaction, various modifications of the test which are not only more sensitive to complement fixing bodies but also do not use the same proportions of the different factors, and in using different factors give results not wholly comparable to the Wassermann, the basis of diagnosis being altered. It is time that efforts were directed toward standardizing the reaction or such elements of it as can be standardized, for one reason, in order to allow definite comparison of the ever multiplying modifications.

The hemolytic system used, whether sheep, ox, human or chicken, is important only as it affects amboceptor, for the amount of cells and of complement is readily made the same for different workers. An amboceptor of less than 1:1,000 titer is in danger of giving complement fixation from agglutinin reactions, and an erythrocyte to be usable must not only be accessible when wanted but capable of producing a high titer hemolytic amboceptor in an available animal. The use of cell suspensions of 1, 2.5, 3.5 or 10 per cent. in different technics makes ultimately for a different standard of antibody content in the serum to be tested for the diagnostic amount of fixation, unless the amount of cell suspension used gives the same proportion of cells to the whole volume of the main test. The original standard of one-fifth volume of 5 per cent. cells makes 1 per cent. cells in the total volume, and should be adhered to.

The cell suspension is usually estimated from the quantity of sediment in the centrifuge tube after the last washing. This procedure is not the best for several reasons: The arm

length of the centrifuge, its speed and the time of centrifugation should all be accurately measured. Inaccuracies in the lower graduations of the centrifuge tube are common. The reading of the mass of sediment is a question of judgment unless it happens level with a marking. Sometimes even after repeated washings there is a little sediment adherent to the tube. The saline solutions in different laboratories vary between 0.8 and 0.9 per cent. Altogether there are too many details to be left to the average technician.

In the Sahli hemoglobinometer is furnished a method for obtaining a cell suspension everywhere of the same strength. The instrument is in every laboratory, readings are quickly made, and the percentage of error is far less than in the estimation from sediment. The complement will be found to titrate more evenly. Of a 5 per cent. suspension of sheep cells properly centrifugated, 0.2 c.c. will give a reading of 75 in the Sahli hemoglobinometer. With this method the suspension need not be wholly thrown down after the last washing (4-5); a reading can be made with the hemoglobinometer, and the final dilution may be estimated and made quickly and accurately, and in all laboratories of the same strength.

COINCIDENTAL ACUTE PERFORATION OF A DUODENAL ULCER, AND BLOCKING OF THE CYSTIC DUCT BY STONE, WITH ACUTE CHOLECYSTITIS

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An acute free perforation of a duodenal ulcer presents a picture that should seldom confuse it with the more common of the abdominal lesions. The sudden and usually terrific onslaught of pain which drops the patient as though shot, the bilateral boardlike rigidity, and the complete physical collapse that accompany the accident, usually serve clearly to define its nature.

Obviously, the chief concern of the surgeon in the case of the acute abdomen is to decide the necessity for surgical intervention. This done, a differential diagnosis should, if possible, be made. In the case I wish to report, the interest centers about two interesting conditions: First, there were two coincidental acute lesions, both in the upper abdomen; second, the clinical picture suggested neither of the two lesions.

REPORT OF CASE

History.—Mrs. P., aged 29, who entered Wesley Memorial Hospital, September 21, 1918, referred by Dr. J. G. Campbell, began first to feel sick shortly after noon, September 19. Previous to this time she felt "perfectly well." As the afternoon progressed, the vague feeling of illness defined itself as a diffuse abdominal discomfort which progressed in severity, keeping her awake until midnight, after which she slept at intervals.

On the following morning, feeling somewhat relieved, she was able to be about. Late in the afternoon a rapid increase in the severity of the pain compelled her to go to bed. Attempting to eat supper, she vomited for the first time since the onset of symptoms, thirty hours previous. During the night, the pain shifted to the right side, and became so severe that at 4 a. m. her physician was called in. A possible history of previous abdominal disturbances was minutely investigated, and proved negative.

Examination.—The patient was first seen by me forty-eight hours after the onset of symptoms. Her general condition was good. There was no evidence of shock. She was suffering what evidently was an easily endurable abdominal pain. There was marked rigidity over the entire right rectus; the appendical area was very tender. There was moderate tenderness over the gallbladder region and in the midline just below the ensiform. The left rectus was moderately rigid. At this time the leukocyte count was 16,000; polymorphonuclears, 88 per cent. The temperature was 100; the pulse was 100.

The onset and manner of development of the symptoms suggested an acute appendicitis of approximately forty-eight hours' duration, that during the past twelve hours was giving