

Notes on a Case of Gallstones

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The following notes on an unexpected death after a simple and uncomplicated case of gallstones may be of interest and service to other members of the profession, some of whom might be able to shed a further light on the condition, which will be of assistance in forestalling the occasionally sequelae of such operations.

The patient—Mrs. P., aged 52—was admitted to Napier Hospital on 14th November, 1923, with a history of attacks of sudden stabbing pain in the right hypochondriac region of three years' duration. The attacks lasted 6 to 18 hours and at first came on every two to three months. Latterly they were more severe and occurred every two to three weeks. During the attacks she sweated freely and could only obtain relief by injections of morphia, and during the last she vomited and became jaundiced. Between the attacks she suffered from a moderate degree of flatulent indigestion, but the appetite, bowels, and general health were good. Her past history revealed no serious illness, and she had always looked on herself as a strong and healthy woman. She had four children, of whom three are living and well. The youngest is 24 years.

Apart from the attacks of colic the only other complaints she had were occasional, slight, irregular hæmorrhages from the uterus occurring during the past eighteen months—her regular periods stopped five years ago.

Examination showed a well-nourished woman of good colour, whose lungs and heart appeared to be normal. There was moderate tenderness over the gall bladder region, but otherwise nothing of note in the abdomen. Urinary examination—negative.

Before operation on the 19th of November, 1923, she was somewhat restless during the night, but had four hours' continuous sleep and a pint of 10 per cent. glucose solution by mouth before going to the theatre. The anæsthetic was ether only throughout the operation, and the condition of the patient was good all the time—pulse strong and never above 100.

On opening the abdomen a small liver was exposed and pale thick-walled, and distended gall

bladder, with a single large stone in the neck. A cholecystectomy was performed without any leakage of contents and little hæmorrhage. The appendix was removed and gauze drain and small rubber tube left in the gall bladder fossa. Fibroids were noted on the uterus.

On return to the ward patient recovered in a few hours from the anæsthetic, and was kept on saline and 5 per cent. glucose continuously, of which she retained several pints during the 24 hours.

Next day her condition was very satisfactory in the morning—moderate amount of pain and little vomiting; passed 8oz. urine. About mid-day pulse rate rose from a strong regular rate of 120-130 to 140, and became weak and running, and patient began to complain of feeling feverish. Abdomen moderately distended. Two-hourly injections of strophanthin (gr. 1/500) were given and gastric lavage with soda bicarbonate solution, from which the return was cloudy and bile-stained. Glucose and saline solution continued by mouth.

At 4 and 7 p.m. passed normal quantity of urine of specific gravity 1020, acid, and containing no albumen or acetone. Urea concentration was 2 per cent. Microscopically, many staphylococci were the only extraneous matters found. Patient still complained of the heat and general discomfort, and she was relieved by morphine and sponging. Colour was fair—did not sweat much. At 6 p.m. — Temperature, 98.4; pulse, 156; respiration, 34.

No signs of sepsis round wound, culture of swab from which showed a few staphylococci and gram negative bacilli. Abdomen softly distended and not tender.

At 10.30 p.m. patient was catheterised and 4oz. of normal urine obtained. Pulse became progressively worse and patient became unconscious at 3.30 a.m. and died at 5 a.m. Up to the onset of final state of unconsciousness patient had been quite clear and alert mentally.

At *post mortem* examination everything was in order at the site of operation. Liver—fatty and friable—weight 45oz. Kidneys—congested. Poor distinction between cortex and medulla. Uterus—several small subserous and submucous fibroids.

All the other organs appeared healthy.

Pathological reports were as follows:—Gall bladder—greatly thickened wall and loss of epithelium. No evidence of malignancy. Liver—fairly extensive fatty change and collections of inflammatory cells along portal tracts. Condition of moderate cholangitis. Kidney—toxic tubular nephritis.

The cause of death in this case does not seem to be satisfactorily covered by either—(1) Acute heart failure; (2) renal failure; (3) sepsis; (4) hæmorrhage; or (5) shock.

She had no history suggestive of even a minor degree of cardiac inefficiency, and at *post mortem* the heart muscle was of good healthy appearance and not dilated. That the kidney drainage was not fatal is indicated by the state of the urine, which is also against an acidosis. There was no sign of any sepsis either microscopically or macroscopically at *post mortem*.

Hæmorrhage was not more than a few ounces at operation, and none afterwards. Regarding shock, there was very little trauma or other cause for it at operation. The patient had a good strong pulse for 24 hours after operation, and normal or slightly raised temperature. When the pulse began to fail her appearance and elevation of temperature did not suggest a delayed shock.

The case more nearly seems to correspond with those described by *Heyd* ⁽¹⁾ who stresses the constancy of more or less hepatic change in all cases of gallstones—a fact which does not appear to be recognised in the majority of textbooks; and which was arrived at by the examination of sections of liver tissue excised at operation from an extensive series of gall bladder cases. In all of these a varying degree of chronic hepatitis, surrounding the portal canals was found, and he concludes that the majority of infected gall bladders are secondary to a hepatitis, due to some chronic intestinal toxæmia—the infection reaching

the gall bladder via the lymphatics. Many of these cases have ample reserve power of function in the liver—a few who can carry on the ordinary routine of life without symptoms, are nevertheless doing so with so little reserve that the added strain of operation determines a rapid and fatal failure of hepatic function which is manifested in three main types:—(1) Well for 24-36 hours after operation, then profound vaso-motor depression sets in. Patient has a cold, clammy skin and is clear mentally. No dilation of stomach and good kidney function. Generally occurs in cases with a secondary operation and excessive handling of pancreas. (2) Normal course to 5 days, after which patient becomes drowsy and rapidly comatose. Temperature rises to 103-4 deg. Kidney function remains good and abdomen negative. Generally occurs in cases with free drainage of bile. (3) After long history of chronic gall bladder trouble. Cholæmic symptoms with temperature of 104-5 deg. and delirium set in before patient recovers from the anæsthetic. The condition appears to be an alkalosis—CO combining power of the alveolar air being raised to 80 per cent.”

I have quoted *Heyd's* article at some length because, in view of the above case, acute hepatic failure seems to be a factor which can easily go unforeseen in gall bladder operations, and may to some extent be obviated by a more thorough investigation of the hepatic condition by means of the lævulose tolerance test ⁽²⁾ or *Roche's* sodium salicylate test ⁽³⁾.

Some of the cases in *Heyd's* series, particularly those of type (1), he has treated successfully by means of massive doses of glucose (1000cc. of 10 per cent. solution intravenously, 4-6 hourly) and continuous rectal saline.

REFERENCES.

⁽¹⁾ *C. G. Heyd* “Surgical Clinics of North America,” Vol. III., No. II. ⁽²⁾ “British Medical Journal”, 17th March, 1923, page 461. ⁽³⁾ *Ibid.*