and a delicate upbringing. All these factors must be taken into account in deciding the degree, duration, and method of analgesic relief.

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LIGATION OF SPLENIC ARTERY FOR ADVANCED SPLENIC ANAEMIA

BY

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In spite of a great amount of excellent research there still exists an almost complete ignorance as to the cause of splenic anaemia. Whether it is a primary disease of the spleen or not, removal of the spleen may bring about a remarkable improvement in the patient's condition, even although the disease has progressed to a late stage. In these late cases, however, the operation mortality remains very high, largely owing to the fact that all are poor surgical risks, and that in most of them adhesions to the diaphragm are present. These adhesions may extend from the costal margin, up over the whole of the outer surface of the large spleen, and include the upper pole and part of the under surface. As the separation of this area, which lies so deeply and so far back, cannot all be done under direct observation, control of bleeding is very unsatisfactory. Some of the adhesion vessels are quite large and haemostasis most difficult, and yet one of the essentials for success is a dry field at the end of the operation. It follows, therefore, that cases occur in which splenectomy is quite unsafe.

Fortunately, it can now be shown that the relatively simple procedure of ligation of the splenic artery will bring about atrophy of the spleen and clinical results similar to those of splenectomy, even in cases in which the disease has progressed to the stage of cirrhosis of the liver, ascites, and gastro-intestinal haemorrhages.

A review of the literature reveals the fact that ligation of the artery has been used with success in most of the conditions for which splenectomy is indicated. Long (1905) performed the operation on a case where a floating spleen had become fixed by adhesions. Lantz (1914) ligatured the artery, owing to a displaced spleen having

become firmly adherent to the base of the bladder, and causing pain on urination and defaecation. At the end of six months, bimanual examination failed to reveal the spleen. Stubenrauch is reported to have applied the method with success to a case of cutaneous, renal, and intestinal haemorrhage. Valdoni (1929) reports a case of haemolytic jaundice so treated. It was, however, a reference by J. W. McNee (Lettsomian Lectures, 1931) to the possibility of such a measure that suggested its application to the case which follows.

Case Record

A married woman, aged 26, consulted me on December 12th, 1929, owing to general weakness, which dated back to a miscarriage three months before. There was apparently no excessive blood loss, and the pregnancy had reached three months. She looked pale, and an abdominal examination revealed enlargement of the spleen, the notched border of which was easily palpable. No other abnormality was noted. When told of the splenic enlargement, she remarked that when 7 years of age—that is, nineteen years before—a doctor who had examined her made the same observation.

Blood count: Red blood cells, 5,400,000 per c.mm.; white blood cells, 4,400 per c.mm.; haemoglobin, 81 per cent. Differential count: polymorphs, 65 per cent.; lymphocytes, 28 per cent.; large mononuclears, 4 per cent.; eosinophils, 3 per cent.

Splenectomy was advised, but was not enthusiastically received, and owing to her change of residence she was not seen again until March 26th, 1931. She staggered into the room, extremely pale, and with enormous abdominal distension. She gave a history of having missed three periods, of being troubled with vomiting, and finally suffering from several severe attacks of haematemesis, for which she was attended at her home in a country town. The abdomen was huge, with spleen and ascites, and she appeared to be about three months pregnant. She was admitted to hospital, and nine pints of fluid were slowly withdrawn. The lower border of the spleen reached the level of the anterior superior spine. Blood count: Red blood cells, 2,600,000 per c.mm.; white blood cells, 3,500 per c.mm.; haemoglobin, 35 per cent. Differential count: polymorphs, 56 per cent.; lymphocytes, 38 per cent.; large mononuclears, 2 per cent.; eosinophils, 5 per cent.

Following the tapping of the abdomen there was slight improvement in the general condition, but melaena occurred. Weekly tapings became necessary to keep her comfortable. Three weeks after admission, in spite of recurring gastro-intestinal haemorrhages, she was somewhat improved, and it was decided to empty the uterus, which was done with a minimum of disturbance by means of tents. Following this the haemorrhages ceased although the ascites continued.

Further delay was caused by an attack of perisplinitis and left basal pleurisy. The temperature rose to 100°–101° F., the spleen was tender, and there were friction sounds over the splenic area in front and the left base posteriorly. At the end of five months from admission, during which time she was regularly tapped at intervals of seven to fourteen days, it was decided to remove the spleen if possible. After careful typing and cross-typing she was given 10 oz. of blood by the citrate method, and as there was not the slightest reaction this was followed in five days by 15 oz. from the same donor, and the abdomen opened (September 8th, 1931).

The huge spleen was found to be hopelessly adherent to the diaphragm and the abdominal wall. A small area was separated, but the adhesion was remarkable for its firmness. The liver was pale and slightly nodular, but did not appear to be enlarged.

It was decided to ligature the splenic artery, and this was done by means of a double ligature about 9 cm. from the spleen. After the abdomen was dried out, the surface of the liver was roughly scrubbed with dry gauze, and was sutured to the parietal wall. The omentum was then sutured to the scarified peritoneum on either side of the incision, while two tails were carried through slots in the rectus sheath.

The patient stood the operation very well. The spleen became extremely tender, but this gradually passed in about

ten days. Fluid collected, and tapping was necessary two weeks after operation. Thrombosis occurred on the seventh day, the right arm being affected. The spleen gradually diminished in size and the interval between tappings increased.

On July 6th, 1934—nearly three years later—she was in good health and able to do her own work. Her periods, though scanty, were regular. Blood count: Red blood cells, 4,000,000 per c.mm.; white blood cells, 3,400 per c.mm.; haemoglobin, 75 per cent.; colour index, 0.9. Differential count: polymorphs, 65 per cent.; lymphocytes, 29 per cent.; large mononuclears, 1 per cent.; eosinophils, 5 per cent.; slight anisocytosis. Blood platelets, 210,000 per c.mm.

December 3rd, 1934: She complains of occasional abdominal discomfort, due, no doubt, to the adhesions. Apart from this she is active and well. The spleen is not palpable. Blood count: Red blood cells, 4,500,000 per c.mm.; white blood cells, 4,800 per c.mm.; haemoglobin, 80 per cent. Differential count: polymorphs, 68 per cent.; lymphocytes, 25 per cent.; large mononuclears, 1 per cent.; eosinophils, 6 per cent. Blood platelets, 230,000 per c.mm.

Commentary

The following points seem to be of interest:

1. The long history of splenomegaly—namely, nineteen years.
2. The value of ligation of the splenic artery only, in a seemingly hopeless case, as shown by the rapid reduction in size of the spleen, and the improvement in general health, which continues over three years after operation.
3. The apparent recovery of the liver. Ascites was present for six months prior to operation.
4. The occurrence of thrombosis. (It is regretted that platelet counts before operation were not done.)
5. That ligation of the splenic artery is apparently a safe procedure, provided it is done sufficiently far from the spleen to avoid interference with the communication between the splenic and left gastro-epiploic arteries.

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Census of England and Wales, 1931: General Tables, which is now available at H.M. Stationery Office, price 11s. net, contains the principal census statistics of England and Wales. It sets out the populations by sex of constituent regions and counties and of every individual borough, urban district, and rural district, distinguishing between the numbers enumerated in and those resident in each area, and showing the changes that have occurred in recent intercensal periods. It also provides a full analysis of the age and marital conditions, and the distribution of the population, and illustrates the transformation which has taken place in these important characteristics in a series of comparable records going back over the past ninety years. Particulars are also given of the birth places and nationalities of the population, and of the number of persons enumerated in various classes of institutions. The volume may be regarded as completing the normal series of publications presenting statistics derived from the 1931 census. In conjunction with the recently published housing volume it presents for the country as a whole statistics with reference to that body of subjects which have already been dealt with county by county in the appropriate local volumes, and provides aggregated figures which have hitherto been obtainable only by laborious extraction from some sixty-three separate county records. Additional statistics from the 1931 enumeration, hitherto unpublished, are also included—namely, those in respect of populations of county court circuits and districts, and of the personnel of the defence services and mercantile marine absent from the country on census night, and not enumerated, therefore, with the general population.

UNCERTIFIED DEATH

AN ANALYSIS OF 200 POST-MORTEM EXAMINATIONS DONE IN PUBLIC MORTUARIES AT THE REQUEST OF THE CORONER

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The type of case coming to necropsy varies very greatly in accordance with the source from which the subjects are drawn. The voluntary and teaching hospitals specialize in acute conditions, the county council hospitals combine acute with a large number of chronic cases, while the special hospitals provide material from an obviously limited field. Private practice is, for obvious reasons, almost unknown ground from the pathological standpoint, and so, to a certain extent, is the field covered by the jurisdiction of the coroner.

The coroner can not only order an inquest to be held, with or without a necropsy, he can also order a post-mortem examination to be made and a report on it rendered to him. This can be done in cases where no doctor has been in attendance, or where the doctor in attendance, not being satisfied as to the cause of death, refuses to give a death certificate, or where the registrar of deaths is not satisfied with the doctor's death certificate, or under various other kindred conditions. Of these coroners' post-mortem examinations, a few cases associated with sensational inquests get into the lay press, but the vast majority are seen by the pathologists and his assistants alone, while the report is read by the coroner only.

Scope of Present Analysis

The present paper is an analysis of 200 consecutive cases examined at the request of the coroner for the Central London area. It is compiled from copies of the reports made at the time, the cause of death being that suggested in the report, and edited neither in the light of later experience nor in that of the inquest findings, if any.

The chief disadvantage affecting this work is that, from the very nature of things, the ordinary methods of case taking cannot apply, and in point of fact to get any medical history is rare, to get a detailed and reliable one the exception. For example, of fifty-three inquests a previous medical history was available in twenty-five—that is, 47 per cent.; but of 147 simple inquiries only twenty-four (16 per cent.) had any such history. The limitations on the pathological side are also to be regretted. Reports in the present series are in the vast majority of cases based on naked-eye appearances only; sections were rarely cut, chemical methods were of the simplest, though bacteriological tests when required were full and complete.

It seems in place here to say a word about the two most interesting classes of case—coronary disease and myocardial disease. No case was diagnosed as coronary disease unless there was either a definite clot, or an infarct, or such extreme narrowing of the coronary arteries as could not fail very greatly to restrict or even occlude the circulation. Cases where death was ascribed to myocardial disease invariably showed a pathological myocardium, but without such gross changes in the arteries as would account for death. As a matter of fact, they formed a perfectly definite type on their own account, and not by exclusion only.

The cases have been divided into six groups, of which the first four are more or less orthodox, the