normal until the fourteenth day, when it finally settled down to normal. He complained of severe pain along the right arm, but no oedema took place, nor did any head symptoms occur. Immediately after ligature of the arteries a decided diminution of the sac took place, and that portion in the episternal notch became firmer and less expansible, but subsequently the remainder of the tumour enlarged slightly upwards and outwards and pulsed somewhat more freely than before ligature. The following was his condition on March 29th, fifty-one days after the operation: That portion of the sac in the episternal notch has consolidated and feels firm to the touch, although faint pulsation is still felt and the sac itself is tender on pressure. His voice has much improved, but cough is still "brassy," and paralysis of the right vocal cord still persists; some difficulty in swallowing solids continues, but pain has disappeared. Patient was discharged from hospital at his own request on April 7th, and on May 1st was recommended for light work. He now walks about one and a half miles to and from his work daily, without dyspnoea, and can follow his occupation of cleaning tools at the bench without pain or inconvenience of any sort, except slight fatigue of the right arm and shoulder.

The following statistics, taken from records available at the Medical Graduates' College, London, may be of interest. Mr. Bennett May, F.R.C.S., in the Lancet of June 14th, 1894, reported the results of 35 cases of distal ligature of carotids and subclavian for innominate aneurysm. Of these, in 29 both arteries were ligatured simultaneously and figured consecutively—23 died, death being hastened by the operation; in six the disease was not checked and six were practically cured. He also reported 29 cases in which the common carotid alone was tied, and of these 19 died from operation or soon after; in six the disease was not arrested and four were practically cured, or showed marked improvement. I have also been able to find accounts of ten other cases of distal ligature of both arteries reported in the medical journals; in five the sac became firmer and smaller, and patients were able to do light work; in four death occurred in periods varying ten days to one year (two from lung trouble and one as the result of hemiplegia); in one the condition was relieved but not cured; in no case, however, was there complete consolidation of the sac, although in one it was reported to have shrunk to the size of a walnut.

A CASE OF MALIGNANT DISEASE OF THE THORACIC WALL WITH SECONDARY PLEURISY.

By Captain Keppel H. Reed,
Royal Army Medical Corps.

The patient, Private H., was admitted into the Station Hospital, Jhansi, on January 10th, 1904. He complained of having a painful "lump" in the left side, which he had first noticed about six months
previously. It was then about the size of a pea, but had been steadily increasing in size up to the date of admission to hospital. There was no history of injury of any kind.

On examination, the patient was a large well-developed man, his general health was unimpaired, his appetite good and he had not lost weight. There was a smooth, hard, rather elastic tumour lying over the eighth, ninth, and tenth ribs of the left side in the anterior axillary line; it was sessile, about five inches across in its long axis, three inches broad, and projected about one and a half inches from the surface of the chest; not adherent to the skin but firmly attached to the deeper structures. On percussion, the tumour was dull, the dull area extending beyond it about one and a half inches in all directions. The heart was somewhat displaced, pulsation being visible three-quarters of an inch to the right of sternum; the apex beat was not palpable. On respiration, the left side of the chest lagged somewhat behind the right. No other abnormalities were present. It was decided, after consultation, to perform an exploratory operation, with a view to the removal of the tumour, if found practicable. On January 14th, under chloroform, an incision four inches long was made ill the long axis of tumour, i.e., parallel to the eighth rib, the surface of the tumour was cleared and found to be covered with dense fibrous tissue; its removal was found to be impossible, as was expected, the physical signs indicating that a large portion of it was intra-thoracic. It was then carefully incised to the depth of an inch, its cut surface being white and somewhat fibrous, and fluctuation detected. A pair of dissecting forceps were pushed gently through the intervening tissue and a cavity opened up from which sharp hemorrhage took place, followed by the escape of a small quantity of grumous material, resembling broken-down blood clot. On rapidly inserting the finger into the cavity, which was about three inches deep, its walls were found to consist of a shreddy friable material, which readily broke down under the touch. The cavity was plugged with iodoform gauze and the incision closed on either side. The patient was put back to bed and stimulants administered, as he was rather collapsed from loss of blood. The following day the plug was changed, slight bleeding taking place, and the cavity gently irrigated. The temperature rose to 103° F. the same evening, but fell to normal the following morning. The wound was dressed daily and the patient progressed fairly well until the morning of the 26th, when he had a rigor, his temperature went up to 105° F., and he complained of severe pain in the left side and difficulty in breathing. Friction sounds were present, on auscultation, over the lower part of the chest; effusion occurred rapidly until, on February 1st, it had reached the third rib. The general condition was critical, the temperature remaining high with slight morning remissions, dyspnoea also was marked; he was accordingly aspirated in the seventh space behind, and eighteen ounces of blood-stained serum drawn off; owing to collapse symptoms supervening, the operation had to
be discontinued. On February 3rd, thirty ounces of fluid were withdrawn. His condition became rapidly worse, the left lung expanded very slightly, and he developed very severe bronchitis and dry pleurisy in the right lung. Fluid was drawn off on the 7th and 14th, the operation having in each case to be cut short. He died suddenly from exhaustion on February 17th. The following notes were made at the post-mortem examination:

On removing the sternum the left pleura contained about a pint of somewhat turbulent fluid. Left lung collapsed, with patches of consolidation. The right lung showed signs of severe bronchitis; there were a few recent adhesions on the anterior surface of pleura, and the anterior border of lung was emphysematous. The heart was normal, but displaced to the right. All the other organs were normal. In the lower part of the left pleural cavity a hard lump was seen projecting from the diaphragm and lower thoracic wall, having at its apex a small ragged-edged opening. The tumour also projected into the abdominal cavity, and externally between the ribs. It was about the size of a cocoanut. It was removed by cutting through the ribs and diaphragm. On section, it consisted of a number of soft whitish nodules, varying in size from that of a walnut to a pea, each surrounded by a fairly well-defined stroma of fibrous tissue. There were several haemorrhages in its substance, and in the centre the growth had entirely broken down; the large cavity thus formed had been opened up by the operation. The central cavity also communicated with the pleura by the ragged opening mentioned above, causing the severe pleurisy which terminated the case. A portion of the growth was sent to the Institute at Kasauli, and reported to be a sarcoma of the "large round-celled" variety. It was extremely difficult to determine whether the growth originated from the diaphragm or the periosteum of the ribs, as both were extensively involved. I think the evidence was in favour of the latter, as the periosteal forms of sarcoma are often of this variety. That the large-celled sarcoma is not so malignant as some other forms may explain the few symptoms which the man complained of, and the fact that no secondary deposits were found.