horse was immediately sent back to the vendor, and he ultimately died from influenza. The other horse was isolated, and kept by himself in a loose box until the 16th, when it was deemed quite safe to put him in the stable along with the others, but to my annoyance he showed signs of the disease next day. He was immediately again isolated, and put under treatment. He made a good recovery, and the disease did not spread further. This horse undoubtedly caught the infection on the way to Birmingham with the other, as prior to then they had been on different farms. The incubative period in this case was clearly eight days.

The following Table shows the date on which the first symptoms were manifested in each case of the first outbreak :—

Newly purchased horse introduced	4th January
1st Case observed ill	10th "
2nd " "	18th "
3rd " "	19th "
4th " "	20th "
5th " "	21st "
6th " "	22nd "
7th " "	22nd "
8th " "	1st February
9th " "	3rd "
10th " "	5th "
11th " "	10th "
12th " "	14th "
13th " "	20th "
14th " "	28th "

THREE CASES OF ENORMOUS TUMOURS IN THE HORSE.

By WILLIAM LIMONT, M.A., M.B.,

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NO. 1. *Œdematous Fibroma*.—This tumour presented itself as an enormously swollen horse's leg. On section the tumour tissue was found to extend to the true skin, thus replacing the usual subcutaneous tissue. To the naked eye it was evidently fibrous in texture, but at the same time translucent and watery. Its growth, from the size of a hen's egg upwards, was steady. It weighed just 112 lbs. Microscopically, it consists of nothing but bundles of white fibres, branching again and again in a beautiful tree-like fashion—but so as to leave an infinite number of clefts for the lodgment of a watery fluid. The section I have before me exactly reproduces the drawing copied by Cornil and Ranvier from Virchow's work. This tumour appears in man in the form of the multiple growths called *molluscum fibrosum* of the skin and in other forms. For this tumour I am indebted to Mr Thomson of Inverness.

NO. 2. *Sarcoma*.—The case was that of Springhill Darnley, an entire horse. Professor M'Call and I made a *post-mortem* examination of his carcase at the College. We found an immense abdominal tumour,

involving the walls of the intestine, mesentery, kidneys, muscles, ribs, etc. The main mass of the tumour weighed about 85 lbs., but this is no index to the amount of tumour tissue in the horse, for there was, of course, an enormous number of secondary tumours. And, in fact, a good deal of the main mass was left behind. The tumour is an interesting one, for it by no means resembles the melanotic sarcoma with which we are all so familiar.

Microscopically, it shows in the first place a connective tissue *stroma*, composed of bundles of white fibres often resembling those of an oedematous fibroma. This stroma in some places exists by itself; in other places, in one of two ways in connection with the *cells* of the tumour. These cells sometimes lie irregularly or in columns between the bundles of fibres, sometimes in distinct (and generally large) cavities or alveoli formed by the stroma. But in the latter case, delicate fibres (stained pink in picro-carminic preparations) pass in from the stroma here and there, and form a delicate network throughout the mass of cells in the alveolus. The cells in the alveoli are for the most part small and round like those between the bundles, but a considerable number are unmistakably giant-cells. The tumour is, of course, a sarcoma. It may, I think, be described as a *fibrosarcoma* (a sarcoma that has largely developed into fibrous connective tissue), or as an *alveolar sarcoma* of a peculiar kind, or as a *myeloid* (*giant-celled*) *sarcoma*. But these names are used, perhaps, very much according to personal custom or taste. With regard to the last, I think that any sarcoma (like any tubercle) may contain giant-cells. I do not believe that there is the slightest necessary connection between the existence of giant-cells and the origin of sarcoma from bone. I believe that a giant-cell is just an embryonic connective tissue cell, whether found in a sarcoma, or as an "osteoclast" in bone that is undergoing absorption. In the latter case the histologists speak of it as eating away the bone. But it is much more likely that bone is absorbed just as other tissues are, and that the "osteoclasts" are simply the cells of the bone that have returned to the embryonic condition in preparation for development into new bone. There is therefore no microscopical evidence that this tumour began in a bone. And our dissection of the cumbrous abdominal contents gave us no clue to its starting-place. If these cases are difficult to trace in man, they are by far more troublesome in the horse.

No. 3. *Gland-cancer* ("malignant adenoma," "columnar epithelioma," "cylindrical epithelioma," etc.).—The case is described on the label of a laboratory jar (in my handwriting) as one of "tumours of the horse—general infection—kidney weighed 56 lbs." I did not see the carcass, and unfortunately did not note who gave me the tumours. The specimens are all (with one exception) spherical tumours shelled out of some unknown organ or organs. The exceptional one was embedded in lung-tissue, and it I cut and examined. Under the microscope it shows; at parts, empty cavities lined by a single layer of tall columnar epithelium; at other parts, similar cavities lined by the same kind of epithelium, but filled by a mass of more or less indeterminate epithelium. Some cavities are evidently transverse and oblique sections of tubes (Fig. 1). Elsewhere are to be seen long tubes cut longitudinally, lined by a single layer of epithelium, and reminding one strongly of the tubules of the kidney (Fig. 2). This cancer of the lung

must be one of the secondary tumours. So far, there can be no doubt. The primary tumour was probably in the kidney; but possibly in the

FIG. 1.

FIG. 2.

alimentary canal, springing from some of its secreting glands. If we may draw an inference from the label on the jar, the kidney kept its shape well enough to be recognised—though it weighed 56 lbs. This (and the large size) is what one would expect in primary cancer of the kidney. The general appearance and arrangement of the tumour also recalls the structure of the kidney. But this does not go for much.

SUCCESSFUL TREATMENT OF TWO BAD CASES OF FRACTURE.

By THOMAS GILCHRIST, M.R.C.V.S., Wishaw.

CASE I.—Early in the summer of 1887 I was called by a client to see a pony which had got its “jaw broken.” I found on inquiry that the pony had got loose through the night, and had been kicked by one of the horses. On examination I discovered that it had sustained a bilateral fracture of the inferior maxilla. On the near side the bone was broken immediately in front of the first molar tooth, the latter being quite firm; on the off side, however, the bone was comminuted and the first molar loose.

I removed all the pieces of splintered bone I could find, but not the tooth, as I was of opinion that the latter would become firm again if union of the bone took place. I procured a piece of strong leather and had it cut somewhat V shaped; and by cutting several small V shaped pieces from round the angle of the leather, and stitching the edges of the spaces together, a hollow was formed for the chin to rest in. I then softened the leather in hot water, moulded it to the jaw, and allowed it to harden in the required shape. It was then stiffened by means of narrow pieces of cane stitched in stripes along the leather. The splint was then padded with tow, applied to the jaw, and maintained in position by means of straps round the head, which also kept the mouth perfectly close.

The pony was fed for the first fortnight with milk and switched eggs,