

cated by the R.B.C. count of 2,100,000 per cu. mm. There was a striking increase of myeloid leucocytes and unsegmented neutrophils, but the lymphocyte count was not materially changed. This latter finding distinguishes the myeloid type of leukemia from the lymphatic type.

In an attempt to temporarily allay the progress of the disease 7 gr. of liver-stomach concentrate, 3 gr. iron and ammonium citrate were given daily along with 10 cc. subcutaneous injections of liver-vitamin B complex solution.

#### Increased Severity

The symptoms became increasingly severe until the sixth day when euthanasia was recommended to alleviate the animal's suffering.

Contrary to expectations, the autopsy did not reveal any marked enlargement of the spleen or of the lymph nodes. However, a nodule in the spleen was demonstrated upon sectioning of the tissue. The liver was enlarged with myeloid tissue and the marrow of the bones was gelatinous, greyish-red in color and scanty in amount. infarction of one kidney was noted. The mucous membrane and internal organs were very bleached, as was expected from the blood picture.

This is but one of the many diseases that are not fully understood by our men of science, but it is a serious and common enough condition to merit considerable thought and recognition. Opinion as to the causation of the disease is at present very undecided.

For many years it was thought to be due to an unrecognizable organism—possibly a virus that was transmissible from one animal to another. It was even demonstrated that intravenous injections of infected bone marrow emulsions into cows produced a typical leukemia. This theory has gradually given way to the neoplasm theory which contends that the pathogenic agent is an unknown body contained in the blood, probably enzymic in nature, produced by either chemical, mechanical or infectious agents which excite neoplastic changes in the cells of the hemopoietic organs. This unknown body is able to pass through the Berkefeld filter. The

infective agent is thermolabile and is destroyed in half an hour by a temperature of 132° F.

—Harry L. Quick, '45

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**Atrophy of the Supraspinatous and Infraspinatous Muscles in a Young Colt.** Atrophy of the supraspinatous and infraspinatous muscles is quite common in the equine, especially of the draft breeds. This condition is commonly referred to as sweeney. In most cases the atrophy is due to pressure on the supra-scapular nerve at the point where it crosses the neck of the scapula. A common cause of this pressure is an improperly fitted collar. Another common cause is working a green colt on a heavy load until he becomes tired and in resting himself he pulls sideways.

In this particular case, which was presented at the Stange Memorial Clinic, the nerve pressure was caused by the colt crowding through a narrow doorway beside his mother and bruising his shoulder on the door frame. The colt was three months old at the time of the injury.

The history on the case revealed that considerable swelling and lameness appeared in the colt immediately following the injury. It was thought at this time that the scapula or the proximal end of the humerus was fractured. However, after ten days the swelling began to disappear and the lameness gradually improved and finally it also disappeared. The swelling continued to diminish until finally the muscles were atrophied to such an extent that the owner thought that the bone of the shoulder was enlarged. Examination, however, showed the bone structures of both shoulders to be equal in size.

#### Clinical Symptom

When the colt was brought to the clinic the only clinical symptom was atrophy of the supraspinatous and infraspinatous muscles. A decision was made to use the routine sweeney treatment in this case.

A mixture of oil of turpentine and chloroform<sub>111</sub> was prepared. Tincture of iodine was applied generously over the atrophied

area. Injections of three-fourths cc. of the mixture was then made at points approximately one inch apart over the entire area that was affected. In the center of the area the injections were made right down on the scapula. A total of 15 cc. of the oil of turpentine-chloroform mixture was used in this injection. To insure that the proper amount was injected at each point the lock nut on the syringe was used. If too much of the mixture is injected at one point a sterile abscess very often results which requires drainage and considerable delay in healing is sometimes encountered.

The colt showed very little evidence of pain due to the injections; however, he was tied quite close and observed for a few hours to prevent injury should much pain occur. The following day the area showed considerable swelling, which slowly diminished.

#### Later Examination

Upon examination two weeks later it was found that the muscles had not completely returned to normal so it was decided that a second treatment would be necessary. The same method was used this time as previously with the exception that a total of 10 cc. of the mixture was needed. Following this series of injections the swelling went down gradually and the muscles appeared to be filled out to normal.

The colt was then discharged from the clinic. The owner was instructed to give the patient plenty of exercise and turn him out on green pasture. The owner reported recently that the formerly atrophied area had remained filled.

—R. Vaughn Lewis, '45

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**Renal Tumor of a Dog.** Runnels states that adenocarcinoma in the dog usually involves mammary, thyroid, prostate or liver glandular tissue. This case report of an adenocarcinoma is of interest from its rather unusual involvement of the renal glandular tissue. The therapy employed to control the resultant peritonitis which developed fol-

lowing surgical intervention is also of interest.

The patient, an 8-year-old Springer Spaniel, was presented to the Stange Memorial Clinic with a history of refusing most of its feed for 6 weeks with frequent vomiting. The bowel movement was normal but scant. Upon examination the patient was noted to be sensitive in the left hypogastric region and upon further palpation an enlargement could be felt in that area. Fluorescopic examination demonstrated an enlargement about the size of a baseball and slightly elongated in the region of the left kidney.

#### Anesthesia

The dog was administered 1 gr. of morphine sulfate and one-fiftieth gr. of atropine sulfate subcutaneously and surgical anesthesia was completed with ether. A large area was shaved, defatted with ether, and painted with tincture of iodine. The surgical incision, 10 cm. in length, was made on the median line. Exploration revealed an enlarged left kidney. The kidney was freed from its attachment and the renal vessels and left ureter ligated with No. 2 plain cat gut to control the hemorrhage. The renal artery was greatly enlarged and the entire mass markedly congested. The tumorous mass was then removed and the peritoneum was sutured with No. 2 plain cat gut. The muscle and skin was closed with 6 No. 3 nylon sutures and a continuous suture of No. 2 plain cat gut was placed in the skin to bring the edges into perfect apposition. A tight roller bandage was applied to support the abdomen and to help control hemorrhage.

A portion of the enlarged mass was fixed in alcohol and sectioned using routine paraffin methods and staining with hematoxylin and eosin. Microscopic examination revealed the mass to be an adenocarcinoma.

The dog was again anesthetized 6 days later and the inflamed prolapsed omentum and necrotic subcutaneous fat removed. The muscle layers were then sutured by No. 4 chromic cat gut. Bipp paste was applied to the wound and a many-tailed bandage applied around the abdomen.

Two days after the second operation,