into bed, the child was deeply cyanosed and appeared to be dead. A soft intratracheal catheter was passed and artificial respiration with oxygen was applied, but without response.

The autopsy report in summary was as follows. The body was that of an overly-developed teen-age girl, looking more like 16 than 13. There was an extreme degree of cyanosis, deeper and more diffuse than is usual in asphyxial deaths. The sternum bulged forward in the upper third as if it were being pushed outward by something in the upper thorax and imparting a "pigeon-breast" shape to the chest. The soft tissues of the neck and upper thorax were wet and œdematous though the veins were not engorged. On removal of the sternum a large mass was found in the region of the thymus gland. This mass weighed 660 gm. and measured 7 x 5.5 x 9.5 cm. and was of a mottled greyish-white colour and soft consistency. The central portion was traversed by fibrous trabeculæ producing a lobulated pattern. It was adherent to the anterior superior pericardium and surrounded the great vessels. It did not extend above the cricoid cartilage. Posteriorly it compressed the trachea. The thyroid was not involved and appeared normal, though metastatic deposits were present in both the cervical and mediastinal lymph nodes. Smaller metastases were also demonstrated in the liver, kidneys, left ovary and uterus. Microscopically all the tumours proved to be of a similar type, consisting predominantly of variegated small round or ovoid hyperchromatic cells with scanty cytoplasm. Hassall's corpuscles could still be identified in sections taken from the primary mediastinal growth. On the basis of these observations, a diagnosis of thymoma of the lymphosarcoma type was made.

The extreme degree of cyanosis is emphasized as being out of proportion to the degree of mechanical tracheal obstruction. This phenomenon is consistent with certain observations made by Schwartz[6] who is studying the effects of thymic extracts on man and animals. Extracts have been obtained by which a state of shock can be induced. characterized by bradycardia and profound cyanosis.

In view of this it is questionable whether tracheotomy would have been of help in this case, since in addition to bronchial tree obstruction it is possible that the neoplasm may have been functionally active and elaborating toxic substances analogous to the extract recovered by Schwartz. It is also pointed out that radiation therapy would have been of questionable value because of the rapidity of the fatal episode.

Further information was obtained from the mother that may or may not be pertinent. This child had always been "sickly" and was thin, asthenic and underdeveloped up until about a year before death, when she suddenly began to blossom into premature maturity with a gain in weight, development of secondary sex characteristics and a general increase in growth. Menses also appeared at about this time and the patient showed an increase both in energy and in interest in her environment.

REFERENCES

1. BOYD, W.: Pathology of Internal Diseases, 5th ed., Lea & Febiger, Philadelphia.
2. BELL, E. T.: Textbook of Pathology, Lea & Febiger, Philadelphia.
3. MOORE, R. A.: Textbook of Pathology, W. B. Saunders, Philadelphia.
4. RIDER AND MCDONALD: *Am. J. M. Sc.*, 219: 71, 1950.
5. LEVINE, H.: *Am. J. Med.*, 9: 691, 1950.
6. SCHWARTZ, H.: Personal communication.

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AN ATYPICAL FORM OF DE QUERVAIN'S DISEASE

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SINCE 1895, painful stenosing tenovaginitis of the abductor pollicis longus and extensor pollicis brevis at the radial styloid has been described repeatedly under the name of de Quervain's disease. It is characterized by pain over the radial aspect of the wrist, which is aggravated by ulnar deviation of the hand; abduction of the thumb is usually impaired and there is sometimes weakness of the grip or even sudden dropping of objects from the hand. A slight swelling in the styloid area and along the tendons is common.

It was always assumed that locking on movement or snapping did not occur in this syndrome, and this has never been reported. Lapidus[3] did not see it once in 165 cases, although the observation recorded below shows that it is a possibility.

A 19 year old student nurse had complained of pain in the radial aspect of the left wrist for about six months and could rely only on her right hand because of weakness and insecurity in the left. Examination revealed some tenderness and swelling over the left styloid process, and the patient was only able to abduct the thumb to 40 degrees, compared with 60 degrees on the right. With the thumb in the abducted position the terminal phalanx was slightly flexed and could be further flexed, but adduction and flexion at the metacarpo-phalangeal and the carpo-metacarpal joints were impossible. The patient could disengage the locked tendons by pushing on them where they form the radial border of the anatomical snuff box distal to the styloid process. Another method of obtaining the same result was by bending the thumb with the other hand, adduction occurring with a sudden recoil accompanied by a click. This procedure could be repeated but became more and more painful with each repetition.

An operation was performed under local anæsthesia. The tendons were exposed through a transverse incision, half an inch proximal to the main crease of the wrist. The radial retinaculum for the abductor pollicis longus and the extensor pollicis brevis were found to be normal in appearance but a stenosis was suspected at its distal third because of the snapping which could be felt on

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movements of the thumb. The fibrous sheath over the extensor pollicis brevis was slit and a ring-shaped thickening 4 mm. wide was seen on the inside. However, the patient could still feel some resistance on adduction and it was felt that the fibrous sheath over the abductor pollicis longus should also be opened; this was done and movements became free instantaneously. Not until then was it noted that the sheath of these two tendons, which is usually common to both, was divided by a strong, thick septum, rendering the two tendons completely independent of each other (Fig. 1).

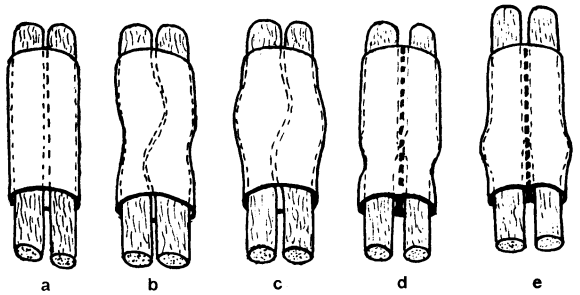

Fig. 1.—Illustration of the relation between ext. poll. long. and abd. poll. brev. and its fibrous sheath under normal condition (a), in de Quervain's disease without locking (b, c), and in de Quervain's disease with locking due to separate sheaths (d, e).

Movements of the thumb and hand were encouraged immediately after the operation, the patient resuming her ward duty the following day. There was no pain and she could use the left hand as well as the right after four days.

A knowledge of anatomy will show why locking is so frequently found in stenosing tenovaginitis of the flexor tendons, but not of the tendons around the styloid. Each flexor tendon possesses its own fibrous flexor sheath, and if the sheath is narrow or the tendon thickened no means of by-passing this obstacle is available. The extensor retinaculum, on the contrary, forms six compartments by attachment of septal bands to the distal ends of radius and ulna. The radial compartment serves for transmission of two tendons, the abductor pollicis longus and the extensor pollicis brevis. If there is a narrowing of the sheath or if there is nodular thickening of one or both tendons, the swollen portion will simply compress the neighbouring tendon. It may then distend the sheath uniformly, thus producing pain, but it will not lead to locking. On the other hand, if the compartment is divided by a fibrous septum into separate sheaths, the mechanism seen in the flexor tendons comes into play.

So rare is the presence of a separate sheath that absence of locking and snapping is almost considered a *sine qua non* for diagnosis of the condition. The latter assumption would place the case described in the broad group of stenosing tenovaginitis either in the sub-group of snapping fingers or as a special type of de Quervain's disease.

SUMMARY

A case of de Quervain's stenosing tenovaginitis with the symptom of locking and snapping is reported. The rare occurrence of this symptom is explained on the basis of an anatomical abnormality.

REFERENCES

1. DE QUERVAIN: *Cor.-Bl. Schweiz. Aerzte*, **25**: 389, 1895.
2. FENTON, R. AND LAPIDUS, P. W.: *Bull. Hosp. Joint Dis.*, **14**: 138, 1953.
3. LAPIDUS, P. W.: *Surg. Clinics of North America*, **33**: 1317, 1953.

ACCIDENTAL MESANTOIN POISONING IN AN INFANT*

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ACUTE MESANTOIN (3-methyl-5-ethyl-5-phenylhydantoin) poisoning is rare. The only known cases reported are those of Kozol (1946) and Savoy (1946). Their patients were young adults. The following report describes the sequence of events occurring in an infant who swallowed 1.5 gm. of mesantoin within a period of 15 minutes.

The patient was a female infant, 19 months of age, who weighed 27 lb. Her birth and early infancy were normal. At seven months of age she had generalized convulsions following inoculation with a combined tetanus, diphtheria, and pertussis vaccine. Thereafter she had recurrent convulsions at intervals of a few weeks until the age of 11 months. At this time she was admitted to hospital for investigation. There was no family history of epilepsy. Physical examination, urinalysis, examination of cerebrospinal fluid, blood Wassermann testing, and pneumo-encephalography revealed no abnormality. Treatment with phenobarbitone and later dilantin failed to control the convulsions. In the month preceding the admission for acute poisoning she was treated with mesantoin 0.045 gm. t.i.d. and was free of convulsions.

Between 10.30 and 10.45 a.m. on November 13, 1952, she swallowed 15 tablets of mesantoin, a total of 1.5 gm. On admission to hospital at 11.00 a.m. she was very drowsy, but responsive to painful stimuli. The pupils were contracted but reacted sluggishly to light. The arm and leg reflexes were diminished. Otherwise the physical findings were normal. Immediately after admission her stomach was washed out with tap water. A small quantity of powdery material was present in the first washing. The final washings were clear.

At 12 noon the infant was difficult to arouse. Caffeine sodium benzoate (60 mgm.) was administered intramuscularly. Ten minutes later she could not be aroused. Picrotoxin (3 mgm.) was administered intramuscularly, but there was no apparent response. She was still comatose at 12.35 p.m. and the respiratory rate had slowed to four per minute. A second intramuscular in-

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