Case II

A boy 5 years old was admitted on October 2, 1940, suffering from laryngeal diphtheria. He had been ill for six days at home, and had moderate dyspnoea with recession, a hoarse voice, marked stridor, and a croupy cough. The throat was congested, and old separating membrane was present on both tonsils. The cervical glands were enlarged and his general condition was very poor: temperature 99°, pulse 120, respirations 24. A late faucial and laryngeal diphtheria was diagnosed, and 60,000 units of diphtheria antitoxin was given intramuscularly, the foot of his bed being raised on low blocks. Shortly after admission he had an attack of acute dyspnoea, followed by another an hour later. His general condition deteriorated rapidly, and marked recession, aphonia, and early cyanosis heralded the onset of acute respiratory obstruction. Tracheotomy was performed two hours after admission, and although his condition remained poor his distress was immediately relieved. An attempt was made to remove the tube in forty-eight hours, but without success, and further intervention was postponed until the following day, when this was successfully accomplished. On the 6th, four days after admission, his temperature rose to 101°, the wound became inflamed, and mild stridor reappeared. No obvious cause could be found for these symptoms, but it was thought they might be due to sepsis, and 0.75 gramme of sulphapyridine was administered four-hourly. The next day his temperature was still 101° and Koplik's spots were seen, followed in a few hours by an early morbilliform rash. On the 8th the rash was fully developed. On the 9th his temperature fell to normal and his general condition improved. Sulphapyridine was reduced to 0.5 gramme six-hourly and discontinued twenty-four hours later. His convalescence was interrupted by an acute otitis media with a purulent discharge from the left ear, which responded satisfactorily to further administration of sulphapyridine and local treatment. Later on he developed a blood-stained nasal discharge with excoriation of the nostrils and an impetiginous eruption on the face, which cleared up after a further 16,000 units of diphtheria antitoxin had been given after desensitization. He was discharged from hospital on December 16, 1940, eleven weeks after admission.

Case III

A girl aged 7 was admitted on July 29, 1940, suffering from laryngeal diphtheria. She had been attended by her doctor for an attack of measles, which started six days before admission. She had complained of a sore throat two days previously. When first examined she was in a distressed condition, with temperature 100°, pulse 120, and respirations 28. There was marked recession, pallor, and oft-recurring attacks of severe dyspnoea. Both tonsils were covered with membrane, which had begun to creep over the soft palate on the right side. The cervical glands were moderately enlarged. The trunk showed generalized staining consistent with a recent attack of measles. She was given 1 c.cm. of coramine intramuscularly and an immediate tracheotomy was performed. Her urgent dyspnoea was relieved at once, and after she had settled down 48,000 units of diphtheria antitoxin was given intramuscularly.

She passed a comfortable night and coughed up several shreds of membrane. Sulphapyridine, 0.75 gramme, was administered orally every four hours. During the day she showed signs of becoming "dry," but otherwise her condition was satisfactory.

At 10.40 on the morning of the 31st I was summoned to see her. She had developed a sudden acute dyspnoea and cyanosis, with general collapse. The tube was taken away, membrane forceps were inserted, and a cast of the trachea 2½ inches long was removed. Coramine was given and the tube reinserted, and by midday her condition had considerably improved. Thereafter her immediate progress was satisfactory. The tube was removed on the evening of August 2 and the sulphapyridine discontinued three days later. A severe diphtheritic myocarditis delayed her discharge until October 7, ten weeks after admission.

Case IV

Another girl aged 7 was sent into the hospital on January 6, 1941, suffering from measles and laryngeal diphtheria. The rash was noticed three days before admission, and her appear-

ance was indicative of a recent attack, as she showed a well-marked fading morbilliform eruption. Her temperature was 98°, pulse 108, and respirations 36.

Examination revealed membrane all over the posterior pharyngeal wall, and well-marked stridor, recession, and aphonia were present. 60,000 units of diphtheria antitoxin was given intramuscularly, and 0.75 gramme of sulphapyridine administered orally every four hours. At 10 o'clock the same evening the obstructive symptoms became more urgent, recession was increased, and she became very distressed. Paraldehyde, 3 drachms in four and a half ounces of saline, was given rectally, and half an hour later tracheotomy was performed, relief being immediate. Her progress remained satisfactory, and the tube was removed on the 9th, three days after admission. The following day the sulphapyridine was reduced to 0.5 gramme six-hourly, being discontinued four days later. Her recovery was delayed by a diphtheritic myocarditis, and she was discharged on March 29, nearly twelve weeks after admission.

I have to thank Dr. T. Peirson, medical officer of health for the city of Plymouth, for permission to submit these case histories for publication.

A CASE OF CONGENITAL OSTEOPSATHYROSIS WITH THE GENEALOGICAL TREE OF THE FAMILY

BY

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Surgeon Lieutenant, R.N.V.R.

A man aged 47 was admitted to hospital with biliary colic. He had deep blue sclerotics, was small in stature, and, unlike the usual sufferers from gall-stones, was very thin. On further investigation a family history of multiple fractures of the long bones was elicited, and in view of its completeness it was decided to place the case on record.

The Genealogical Table

Generations*				Age	Blue Sclerotics	Fractures	Site of Fracture
1st	2nd	3rd	4th				
M					+	+	Femur twice at 62. Died of pneumonia
	M	†		47	+	+	Forearm at 62. Dead
			M	26	+	+	Several of all limbs before school age
			M	24			Several of upper and lower limbs before 7
			M	23			No fractures at all
			F	21			" " " "
				44	+	+	Two before school age; also at 19 and 42
			M	17	+	+	Femur twice at 10
			M	12			No fractures
			M	14			" " " "
			M	16	+	+	Several fractures before 7
			F	9			No fractures
			FM	3			" " " "
				45			" " " "
			M	41			" " " "
			F	43			" " " "
			F	38	+	+	Leg 4 times before 6th year.
							Humerus twice. Clavicle at 13th, humerus at 33rd year
			F	3	+	+	Humerus in 3rd year
							Died at 2 from pneumonia following fractured femur
			M		+	+	History of several fractures in childhood and old age.
							Dead
			M	28	+	+	Had several fractures as a child, before 7th year
			F	6	+	+	Not known
			M	4	+	+	" " " "
			F	25	+	+	Many before 7th year
			S				Several before 7th year
			M	22	+	+	No fractures
			M	16			" " " "
			S	15			" " " "
			S				No fractures. Dead.
			M				" " " "
			F				" " " "

* The letters in black type denote members affected.
S=stillborn.

† The present case.

Conclusions

Males appear to be affected more commonly, in a ratio of 3 to 2.

All those with blue sclerotics have sustained fractures.

The most common age for fractures is pre-school age, and up till the seventh year. There are very few cases between the seventh and fifteenth years, seldom in adult life, but beyond middle age they again become more frequent. In this instance the grandfather, father, and uncle had fractures in their declining years.

The man whose case is here recorded is known to have biliary colic, with calculi, and the grandfather is reputed to have had either biliary or renal colic, with calculi. Also, by repute, the family suffer from "gravel." Their private doctor, however, cannot bear out this statement, although he says it may be prevalent in other branches of the family.

Most of the subjects are under average height, of stocky build, and over average weight.

The condition appears to be transmitted through both males and females, provided that one of the parents possesses the characteristics. Children who are quite normal at birth do not acquire the condition, nor do their subsequent offspring, provided, of course, that the other parent is normal.

Sufferers from fragilitas ossium and normal children seem to be equally distributed in any one family. It is rather noteworthy that where the condition was present in the mother the child in one case was stillborn and in the other was a female child subject to the disease.

The percentage of stillbirths in this family is 11.

Finally, the cause of the sclerotics being blue is the thinness of the sclera, which, according to a case examined microscopically (Parsons), was one-third the usual thickness; the cornea was thinner than normal and Bowman's capsule was absent. X-ray examination of the long bones showed an osteoporosis, with a widening of the medullary cavity at the expense of the cortex. The skull, although flattened and with an increased bitemporal diameter, was completely ossified. The ears were pointed, completing the elf-like appearance which is typical of this condition.

The aetiology of fragilitas ossium is unknown.

I am indebted to Surgeon Rear Admiral R. F. Cory and Dr. E. A. Cockayne for their kind assistance, and to Dr. George Hendry of Buckie for much of the information.

Medical Memoranda

A Case of "Influenzal" Meningitis

"The rarity of what it may be less misleading to call 'Pfeiffer bacillus meningitis' will always make records of therapeutic tests difficult to collect" (*Lancet*, 1940, 1, 463). Recovery from "influenzal" meningitis after sulphapyridine therapy has been reported by Roche and Caughey (1939) and Sakula (1940), among others. Untreated, the infection has a mortality rate of about 95%. The case described below developed meningeal signs after fourteen days, and these were preceded by a generalized infection, the main features being pyrexia, albuminuria, acute gastro-enteritis, and a purulent infection of the ankle-joint from which the *Haemophilus influenzae* was recovered.

CASE REPORT

The patient, a male infant aged 15 months, was first seen on February 11, 1941. The child had acute gastro-enteritis, which subsided in three days. Four days later one of its ankles became swollen and painful, the urine was loaded with albumin,

and the infant had a temperature ranging from 102° to 103°. The ankle became less painful, but the swelling persisted; it had no inflammatory signs and appeared to be a "cold abscess." On February 25 the child developed a peculiar staring expression, the oculomotor nerve evidently being involved. There was now no evidence of albuminuria, and no change could be detected in the retinae or disks. On the 27th neck rigidity appeared and a lumbar puncture was performed, turbid fluid escaping under considerable pressure.

Treatment with sulphapyridine was started; 1 gramme in eight divided doses was given daily. There was an improvement in the clinical condition: the pyrexia subsided, and the child took its feeds well and was no longer restless; the neck rigidity persisted, however. On March 3 lumbar puncture was repeated. The fluid was now under normal pressure but was still turbid. On the same day a purulent exudate was aspirated from the ankle-joint. On the following day, however, the child's condition rapidly deteriorated, the temperature rose to 102°, and the patient died.

LABORATORY FINDINGS

Cerebrospinal Fluid examined on February 27.—Turbid fluid under considerable pressure. Total cell count, 600 per c.mm.; 97% polymorphonuclear leucocytes, 3% lymphocytes. A direct smear showed large numbers of Gram-negative bacilli, and culture on blood agar gave a heavy growth of *H. influenzae*.

Cerebrospinal Fluid examined on March 3.—Turbid fluid under normal pressure. No significant change in total or differential cell count. A direct smear showed organisms considerably reduced in number, but culture still gave a heavy growth of *H. influenzae*. Indole, which is sometimes found in the cerebrospinal fluid in cases of influenzal meningitis, was absent in both specimens.

Pus from Ankle-joint (March 3).—*H. influenzae* was present in smear and isolated in pure culture.

The strain of *H. influenzae* was examined by Dr. Edith Straker at the London School of Hygiene, and was found to be of antigenic Type B (Pittman), the type most often found in influenzal meningitis in infants.

COMMENT

In spite of the late administration and the comparatively small total dosage of sulphapyridine in this case the temporary clinical improvement, the reduction of pressure in the C.S.F., and the considerable reduction in the number of organisms present in the direct smear of the C.S.F. would suggest that the drug had a beneficial effect and is worthy of further trial in this condition.

We would like to record our appreciation of the advice and helpful criticism given us by the late Dr. W. M. Scott and by Dr. Edith Straker, and our thanks to Dr. S. G. Budd of Newcastle Emlyn for furnishing us with the clinical details.

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E. B. Cram (*Med. Ann. D.C.*, 1941, **10**, 39) states that during the last four years 4,000 persons in Washington, D.C., were examined for threadworms by the NIH swab technique. The parasite was found in 42% of 2,900 white persons and in 13% of 1,100 negroes. Information relative to the familial extent of infestation was obtained in 320 families in which 1,525 persons were examined with the following results. In the 286 white families threadworms were found in 72% of the children and 36% of the adults, and in the 34 negro families in 51% of the children and only 7% of the adults. In the white families multiple cases were the rule, as in only 70, or one out of 4, was the infestation with oxyuris confined to a single case; whereas in the remaining 216 families there was an average of 3.4 positive cases per family.