investigations, of which x-ray examination of the long bones is the most important. The possible value of E.E.G. recordings is discussed.

Treatment should aim at immobilizing the lead in the bones. "De-leading" should never be attempted in children.

Lead-poisoning in children could be entirely prevented. Lead paint should never be used in places that children can reach. Lead nipple-shields should be prohibited.

The use of dimercaprol in the treatment of lead-poisoning is discussed and is thought to be worthy of trial, especially in cases of lead encephalopathy.

Lastly, it is stressed that the diagnosis of pica should always bring with it the question, "Is this child liable to ingest poisons by its habit of dirt-eating?" Probably the most important of such poisons is lead.

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The Abortion Law Reform Association has just issued a leaflet of advice on how to seek termination of pregnancy. The patient should consult her general practitioner, putting before him the physical and mental grounds for her request. The general practitioner, if he considers the case a reasonable one, will then take a second opinion; and, should this opinion also be favourable, he will arrange for a competent surgeon to perform the operation. The recent judgments in the Bourne and the Bergmann-Ferguson cases give legal precedents to show that it is legal for a patient to ask her doctor for a termination of pregnancy; it is legal for a doctor to consider such a request, and, if he endorses it, to take a second opinion; and it is legal for a surgeon to act on such opinions and to operate, if these opinions are based on preserving the life or the health of the woman and are given in good faith.

KERATODERMA PALMARIS ET PLANTARIS CONGENITALIS

BY

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The condition known by the above name (there are numerous synonyms) is apparently well known to dermatologists, and a considerable number of reported cases are on record. In 1933 Michael contended that no further cases should be published unless they showed features of particular interest. The following case seems to be the first instance in the white race in which the condition has been traced through seven generations. The family tree is also one of the largest on record.

Case Report

A male child aged 14 months was admitted to the Children's Hospital, Derby, in January, 1950, with an acute respiratory infection. He was the second child of parents who were not related. Apart from his skin

FIG. 1.—Photograph of patient's hands.

FIG. 2.—Photograph of patient's feet.

FIG. 3.—Photograph of hands of patient's mother.

abnormality his previous health had been good, and he made a rapid and uneventful recovery from the pulmonary infection.

The skin lesion, which is shown in Figs. 1 and 2, was confined to the palmar surfaces of the hands and the soles of the feet. It was sharply limited at the wrists and did not affect the back of the hands or the dorsum of the feet. The anomaly appeared to be a simple hyperkeratosis of the skin without any inflammatory element. The whole surface of the palms and soles, including the volar surfaces of all the fingers and toes, was involved, but the thickening was of rather variable extent. At the flexures of the fingers and toes and in the creases of the palms the hypertrophied skin was cracked and fissured.

The condition had first appeared, when the child was 5 weeks old, as a yellow line along the borders of the palms, and had gradually spread, finally covering the areas shown in Figs. 1 and 2. The remainder of the skin of the limbs, trunk, and head appeared quite normal. There was no apparent disability, and the infant could grasp objects firmly and appeared reasonably dexterous. When he was seen six months later, after he had begun to walk, the palms were in much the same condition as when he was first seen, but the soles were much more severely affected. His general health continued to be good and his mental development was apparently normal.

Other Members of the Family.—Seven of the eight other affected members of the family were seen (one affected grand-uncle was dead). In all of them the condition was strikingly similar. Their ages varied from 5½ months to 72 years, and in each the distribution and the character of the lesions were identical. A photograph of the hands of the infant's mother is shown in Fig. 3.

Features of the Abnormality

In every case it was reported that the skin was normal at birth, and that the defect became obvious within the first three months of life, in the manner described above. Once it had appeared it persisted throughout life and resisted all forms of treatment. One of the affected members was reported by

the others to have spent a small fortune on a host of remedies without the slightest effect.

From time to time large areas of the hypertrophied skin would peel off, leaving thinner but not normal skin underneath. The mother of the affected child had met with an accident to her left hand, which was caught in a mangle. A large part of the skin of the hand was torn away, and when, in course of time, the new skin appeared it progressed exactly as the old had done.

There was little disability from the lesion except for blunting of the sense of touch. The infant's mother claimed to be able to remove hot plates from the oven without feeling any discomfort. All the male members affected had earned, or were earning, their living at a variety of semi-skilled occupations. It was the universal testimony that working with the hands made the skin grow thicker and more rapidly, and one of the men had very thick plaques on his thenar eminences, which were constantly utilized in his work as a packer. One man stated that he had purposely refrained from marrying until over the age of 60 for fear of transmitting the defect. On the other hand, the younger people treated the matter as of no moment.

Family Tree

The sibships after the third generation are complete as shown in the diagram. Three generations were seen by me. Testimony of the occurrence of the condition in the two generations preceding that was given by the three surviving members of the third generation. Beyond that the history is dependent on a report by the grandfather of the infant. The reliability of his testimony is unknown, but when his statements could be checked they were found to be accurate. He said that his grandmother had told him that her father and grandfather were affected. The condition is such a striking one and the mode of inheritance so uniform that it is probable that the statement is true. If so, it represents a period of probably two centuries in which the condition has been handed down in a direct line. It will be noted that the mode of inheritance is direct from parent to child. No generations have been skipped, and in no case has the condition appeared in the offspring of an unaffected person. Of the children of affected parents from the fourth generation onwards the proportion of affected to unaffected is 13 to 18. It may be presumed that the condition is transmitted as a simple dominant.

Discussion

The following summary of Olmsted (1927) is an excellent brief account of the history of the condition. "First described by Krost in 1880 and by Unna in 1883, the

hereditary character of this form of keratoderma was emphasized by the earliest authors. Vörner recorded its existence in four generations of one family, 16 out of 40 members being affected. Cases have been reported from time to time in Europe, North and South America, and Japan. The high incidence of the disease among the natives of the small island of Meleda, in the Adriatic Sea off the coast of Dalmatia, led early observers in this locality to attach to it the name of 'mal de Meleda' and to consider it a peculiar form of leprosy. It was not until 1898, when the Viennese dermatologist Neumann visited the island, that the clinical identity of these cases with keratoderma was established. Crocker ascribed the apparently endemic character of the disease in Meleda to the result of frequent intermarriage in an isolated island community."

The pathology has been repeatedly described and no lesions apart from the hyperkeratosis have been recorded. There is a considerable variety of types of the condition, each of which is honoured with a special name—linearis, striata, punctata, diffusa, subungual, etc. However, the present case is an instance of the most common type, and the basic defect is presumably the same in all types, with the manifestations modified by unknown factors (Siemens, 1929). Siemens also notes the occasional association of the condition with other ectodermal defects.

Cockayne (1933) lists 72 reported families containing 699 affected persons. In only one instance was inheritance traced as far as the sixth generation. In 1933 Michael presented a family tree containing 68 members—31 affected and 37 unaffected—extending through six generations, and claimed that it was the most extensive one reported up to that date. Since then Huei-Lan Chung (1937) has recorded two Chinese families in whom he traced the condition through five and seven generations. His pedigree of the latter family is formidable, and was made possible, he says, only because of the Chinese manner of living, in which several generations of the family inhabit the same compound. Since Huei-Lan Chung's report I have not been able to discover any pedigrees of similar size, and this is apparently the second occasion on which inheritance through seven generations has been recorded.

The condition is apparently of universal distribution. Cockayne states: "The races in which the defect has been seen are English, Scottish, white American, German, Norwegian, Swedish, Dutch, Belgian, French, Italian, Spanish, Russian, and Japanese." To these must now be added Chinese (the cases mentioned above) and Indian (Hai, 1950).

Michael considers that "there is every reason to believe that the mutation which gives rise to the anomaly is still appearing in the race." Since my interest was first aroused in the condition I have become aware of four other affected families in the Midlands. It seems probable that the defect is more common than has been realized.

Summary

A case of the diffuse form of keratoderma palmaris et plantaris congenitalis in an infant is reported.

The family tree is given, showing direct transmission through seven generations. The mode of inheritance and the numerical incidence strongly suggest a simple Mendelian dominant.

The condition is world-wide in incidence, and is probably commoner than reports would suggest.

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FALSE DIAGNOSIS OF PATENCY OF FALLOPIAN TUBES

BY

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Among gynaecologists engaged in the study of infertility it does not seem to be well enough recognized that the kymograph does not always depict the true state of the Fallopian tubes on pertubal insufflation. A diagnosis of patency of the fimbrial lumina may be made when such is not the case. Miller (1945) wrote: "Deception may occur as a result of gas bubbling through a hydrosalpinx," but little attention has been paid to the phenomenon in this country. At a conference on infertility in London in 1950, Siegler referred to this possible means of falsely diagnosing patency.

In those cases in which bilateral hydrosalpinx exists, pelvic examination would reveal the condition and give evidence that the kymograph was misleading. When, however, there is no fluid exudate the tubes are in a flaccid state, although occluded by terminal adhesions, and nothing abnormal is palpable on examination. Were a salpingogram not taken, occlusion at the fimbrial ends of the oviducts would remain undetected.

There seems to be no certain way of avoiding the occasional misdiagnosis of patency in some cases with terminal tubal occlusion when there is no distension of the tube. The symptom of shoulder-pain following insufflation is not inevitable, as it was experienced in some of the cases in which non-patency was confirmed. Moreover, even when normal patency exists, sufficient carbon dioxide may not have been introduced to cause shoulder-pain to be registered. According to Miller (1945), 300 c.cm. of gas must be introduced to produce the symptom of shoulder-pain. I find, on the contrary, that the registration of shoulder-pain is a variable factor and may be experienced after the introduction of not more than 100 c.cm. of gas.

In some of these cases of non-patency, bilateral pelvic pain has been experienced, but others have felt no discomfort. Pelvic examination immediately after insufflation of those women who have experienced pain has revealed a tubal swelling, but by the next occasion the patient has presented herself for examination there is again nothing abnormal to be felt.

It would seem conceivable that if enough carbon dioxide was introduced on each occasion a stage would be reached when the uterus and tubes were filled to capacity and pain would occur, but in the one case in which the introduction of gas was continued for some time it was not so. Presumably enough had not been run in. Tubal peristalsis can occur in both directions