He married a normal, and of their children six were normal and two others had several undeveloped teeth. A normal sister had eighteen children, one of whom was without teeth or hair. Fürst (*Arch. f. Rass.-u. Gesells.-biol.*, 1905, xvi, 310) describes another case of anodontia.

Any possible connexion of rickets in the etiology of this condition need not be considered here, as a hereditary genetic defect displayed in three successive generations cannot possibly be due to such or to any other form of malnutrition or vitamin deficiency.

From all the foregoing cases this family group is essentially different, in that the primordia of the teeth are not suppressed, being present in the gums even when dentition is either greatly delayed or never completed. Sweating is normal here, and the hair is as abundant in all the affected members as it is in ordinary members of the general community. It is just conceivable that as the teeth are epiblastic appendages, and the corneal epithelium and the lens itself are also epiblastic in origin, the eye defect in this family and its inherited dental condition may be associated characters, joined or linked together in the process of heredity. Whether this is so or not must at present be left an open question, though the association itself is certainly suggestive.

I have to thank Dr. Veitch Clark, the medical officer of health, and Dr. Maude Duckworth, at whose infant welfare centre under the Manchester Corporation the infant was seen, for permission to publish notes of the above case; and to acknowledge to R. R. Gates's *Heredity in Man* (1929) my indebtedness for references to the literature.

HEREDITY AND DUPUYTREN'S CONTRACTION

BY

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The hardening and contraction of the palmar fascia, resulting in flexor contraction of the fingers named after Dupuytren, has been known for many years to have had a hereditary factor in its etiology. This factor has been thought usually to be of a gouty nature, influenced by occupation. It is rare to come across three brothers affected with the deformity, whose father was also affected, and whose mother was affected by double-bent little finger at the proximal interphalangeal joint, but whose other fingers were normal.

The father died at the age of 73, and the mother at the age of 63. All the affected followed different occupations. The father was a grocer, and the brothers were a baker, clerk, and general labourer, their present ages being 72, 70, and 68 respectively. There is no history of gout in the family. The pedigree is as follows (a female infant in Generation II, who died in infancy, is not shown):

Description of Members of Pedigree

I 1: Both hands affected; third and fourth fingers contracted; began at about the age of 50.

I 2: Both little fingers (fourth) bent at proximal interphalangeal joint; said to be from birth. Other fingers unaffected.

II 1, 4, 6: Unaffected.

II 2: Both hands affected; right first and fourth fingers, noticed first at the age of 57; left first, second, third, and

fourth, noticed first at the age of 37, after receiving injury to second finger.

II 3: Both hands affected; noticed first about the age of 40. Right first, second, and third fingers; left second and third fingers. Both fourth or little fingers are bent at the interphalangeal joints similar to his mother's.

II 5: Both hands affected; began at the age of 48. Right third and fourth fingers; left second, third, and fourth fingers.

III 6: Died in infancy.

III 7: Died, aged 23, unaffected.

III 1, 2, 3, 4, 5, 8, 9, 10: All unaffected—ages from 41 to 33.

It will be observed that there is some slight variation in the degree of deformity. II 2 and II 5 have the greatest deformity in the left hand, while in II 3 it is the right hand which is most affected. In all three the fourth or little finger is affected, and it is difficult to decide whether the maternal character as well as the paternal is shown, or whether the maternal factor has reinforced the paternal factor so as to produce the very marked deformity in all three brothers.

So far the deformity has not appeared in the third generation, but this generation has hardly yet reached the age when it begins to be noticed. The late period in life—advanced maturity—when the deformity appears and continues to progress, illustrates the potency of the hereditary factor which lies dormant during childhood, adolescence, and maturity.

There may be other defects or diseases appearing late in life which have a hereditary basis, but are not so easily recognizable clinically as Dupuytren's contraction. Owing to the difficulty of disentangling and analysing the various factors these defects or diseases are attributed chiefly to environmental causes.

Senescent hereditary defects or diseases are more difficult to study with the completeness of those occurring in earlier years, because many members of families do not live long enough for the defect to appear, and develop to such a degree as to be recognizable.

DISSEMINATED ENCEPHALO-MYELITIS FOLLOWING SPINAL ANAESTHESIA

BY

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Although spinal anaesthesia was introduced by Bier of Bonn in 1889 the method has been generally employed only since the discovery of stovaine in 1904. Toxic effects at the time when stovaine was on trial, and its known action in lowering the blood pressure and depressing the cardio-vascular and respiratory systems, discouraged many surgeons for a time from the employment of spinal anaesthesia. For many years it has been successfully used by those aware of its dangers and of the technique of administration; and in a large field of surgery it now appears to be the anaesthetic of choice. Those who employ this method have recorded series of thousands of cases without any immediate ill effects or sequelae, and the majority of deaths which have occurred under spinal anaesthesia have been due to the state of the patient prior to operation, shock, cardiac disease, and to loss of blood, etc.—conditions which would make the operation more hazardous if performed under chloroform or ether.

Headache, paraesthesiae, and even pain in the trunk and limbs, not uncommonly follow spinal anaesthesia. More rarely paralysis of an ocular muscle occurs, but recovery is usually complete within a few weeks. More

serious affections of the nervous system are very rare ; but there are records in the literature of such varied neurological sequelae that I would submit the description of two cases where the onset of symptoms appeared to be too closely related to spinal anaesthesia to be entirely unconnected with its administration.

CASE I

Mrs. N. W., a healthy woman aged 38, had a hysterectomy performed for fibroids in August, 1929 ; the tissue was subsequently examined histologically, and there was no evidence of malignancy. Spinal anaesthesia with stovaine was employed.

Four days after the operation, from which she otherwise made an uneventful recovery, she noticed that her right arm was useless and weak, so that she had difficulty in feeding herself ; within the next few days she complained of weakness in both legs and some dimness of vision. These symptoms became more marked, and finally all the limbs were completely paralysed and flaccid. The onset of the complete paralysis was associated with headache and delirium, which persisted for about a fortnight ; she had diplopia and such deficient vision that she was unable to recognize those in the room. There was retention of urine and faeces. Improvement was gradual over a period of months. She recovered the use of the left arm, and although the right remained very weak, some degree of movement was possible at all joints. Vision was restored to such a degree that she was just able to read large print ; and although her right arm showed ataxic movements at the onset of her illness, both inco-ordination and tremor passed away. Both lower limbs remained completely paralysed, but without sensory loss, although paraesthesiae, burning, and a feeling of weight were present in each. The pupils were equal, central, and circular, and reacted both to light and on convergence ; the arm-jerks were present and not exaggerated ; the abdominal reflexes were absent on the right side and very sluggish on the left. There was no spasticity of the lower limbs, but both knee-jerks were exaggerated ; the ankle-jerks were present and equal, and the plantar responses were flexor. Speech was little impaired, while intelligence was unaffected ; no emotional disturbance persisted. There was no diplopia, but nystagmoid movements were noted in the horizontal plane. Retention of urine and faeces has persisted since the onset of the cerebral symptoms and the general paralysis.

The above represents the clinical picture when she was seen by me with Dr. Alexander of Darvel nine months after her operation, and Dr. Alexander informs me that now, some twenty months after the onset of her symptoms, very little further improvement has taken place. She is bed-ridden, with almost complete paralysis of both lower limbs ; the right arm is still weak ; sphincter control has in a small measure been regained. Before the operation she had enjoyed excellent health, was the mother of two healthy children, showed no evidence of syphilis, clinically or serologically, and had never previously experienced even transient nervous symptoms. As in the other patient, there is no history of any familial disease.

CASE II

G. Y., aged 35, had an operation for left inguinal hernia under spinal anaesthesia with stovaine in August, 1929. The wound healed by first intention, and the recovery from a surgical point of view was uneventful.

During the first few days following the operation a change in his speech was noted in that it became thick and deliberate, with occasional mispronunciation of words ; and at the same time the left hand became clumsy, so that he was unable to fasten buttons and carry out fine movements, though there was no objective paralysis. There was no sensory loss, but the arm and leg felt numb ; and, though there was delay in commencing micturition, catheterization was never required. He had slight transitory dimness of vision, but no ophthalmoscopic changes were detected. Later the left leg became weak and stiff, and he dragged it when walking, and with this stiffness there was associated a feeling of heat in the whole limb.

When seen by me six months later he appeared a well-built man with healthy organs. There was no evidence of arterial degeneration, and the blood pressure was within normal limits. Both legs were weak, especially the left, and when walking

the latter limb was stiff and dragged slightly. The deep reflexes were exaggerated in both limbs, especially the left ; ankle and patellar clonus were elicited, and on the left side the plantar response was indefinitely extensor. There was no intention tremor, diplopia, nystagmus, or emotional disturbance, but though Romberg's test was negative he had some difficulty in walking heel-to-toe. There was no sensory loss and no astereognosis.

The left arm showed more weakness than could be accounted for by the fact that he was a right-handed man, and he was definitely clumsy in carrying out fine movements with this hand. There was no obvious muscular atrophy. The abdominal reflexes were very sluggish on the right side and absent on the left.

Lumbar puncture gave a clear fluid under increased pressure ; protein was increased ; sugar was normal ; no organisms were seen ; and there was only one cell per c.mm. The Wassermann reaction was negative in the fluid and also in the blood, while the colloidal gold curve was 0022110000. He has since made slow but continuous improvement.

The only sequel of spinal anaesthesia, apart from headache and paraesthesiae, which I had previously seen was diplopia from paralysis of an ocular muscle ; but meningo-myelitis after anaesthesia has been described by Donovan, Beretervide, and Richniewski,¹ and a degenerative myelitis has been recorded by Nonne and Demure.² Tropho-neurotic disturbances have also been observed ; and Devraigne, Suzor, and Laennec³ had a case where quadriplegia followed anaesthesia. Post-anaesthetic confusional insanity, epileptiform seizures, double optic atrophy, and vitiligo have all been recorded as sequels of spinal anaesthesia.

Considered from the point of view of the nervous systems alone, both cases which I have described could be diagnosed as disseminated sclerosis ; and even with their post-operative onset, I am aware that many would still consign them to that dumping-ground of neurological diagnosis. But from the onset of the symptoms so soon after spinal anaesthesia, which we know can be occasionally followed by the most varied nervous symptoms, I consider that their relationship to the anaesthesia is more than merely fortuitous.

REFERENCES

- ¹ Donovan, Beretervide, and Richniewski: *Rev. Soc. di Med. Int. y Tisol.*, 1928, iv, 67.
- ² Nonne and Demure: *Wien. klin. Woch.*, 1928, xli, 1002.
- ³ Devraigne, Suzor, and Laennec: *Bull. Soc. d'Obstét. et de Gynéc.*, 1927, xvi, 316.

HYOSCINE AMNESIA IN LABOUR, WITH OR WITHOUT CHLOROFORM

A RECORD OF THIRTY-FIVE CASES

BY

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I started using this treatment as a result of reading the article on hyoscine amnesia in labour by Dr. D. R. Jennings in the *British Medical Journal* of November 2nd, 1929. The cases were not selected, except that no patient who was suffering or had suffered from albuminuria was treated.

Van Hoosen's dosage, as quoted by Jennings, was employed, with only slight modification in a few cases—that is, three doses of 1/100 grain of hyoscine hydrobromide hypodermically at half-hourly intervals, and thereafter 1/100 grain every two hours as long as labour lasts.

In twenty-one of the cases chloroform was also given in the second stage. This is the present practice of the Leeds Maternity Hospital, and I think that where birth occurs about the time when the third injection is due it