A blood count showed: red cells, 2,450,000; haemoglobin, 42%; colour index, 0.86; white cells, 3,050; platelets, 346,000 per c.mm.; cell volume, 21.4%; M.C.V., 95.6 μ^3 ; M.C.H.C., 28%; bleeding time, six minutes; coagulation time, initial clotting five minutes; complete clotting, eight minutes. The sternal marrow film showed increased haemopoiesis with normoblastic erythropoiesis. There were some deformed iron-deficiency normoblasts.

Tests for occult blood in the stools were repeatedly positive. The fractional test meal demonstrated a histamine-fast achlorhydria and blood in the test specimens. The blood urea was 34 mg., and the plasma fibrinogen 250 mg. Liver-function tests on April 5 showed: serum albumin, 3.3 g.; serum globulin, 1.8 g.; serum total cholesterol, 190 mg. per 100 ml.; serum alkaline phosphatase, 20 units; van den Bergh, direct and indirect reaction negative; cephalin cholesterol, negative; thymol turbidity, 0.5 unit; colloidal gold, 33210. The serum albumin was relatively low, and the serum alkaline phosphatase was raised.

The patient's blood was found to be Rhesus-negative, and she was transfused with 3 pints (1.7 litres) of packed cells from Rhesus-negative blood. After this her red cell count rose to 3,390,000 per c.mm., and the haemoglobin to 60%. On April 28 she was discharged on choline, 4 g. a day, and "rutin," 60 mg. a day.

On June 8 she was readmitted. She felt better, but had had two further nose-bleeds and still had a pronounced pallor. The liver and spleen were unchanged in size. A blood count showed: red cells, 2,480,000 per c.mm.; haemoglobin, 36%; cell volume, 19.7 c.cm.; M.C.V., 79.4 μ^3 ; M.C.H.C., 25.4%; bleeding time, three minutes; coagulation time, initial clotting, eight minutes; complete clotting, 11 minutes; platelets, 275,000 per c.mm.; prothrombin time, 14 seconds. Tests for occult blood in stools were still strongly positive. Sigmoidoscopy failed to show any angiomas of the rectum and distal sigmoid colon; she was not submitted to gastroscopy. A further 3 pints of Rhesus-negative blood was given. She had no further nose-bleeds while in hospital, and was discharged on June 22.

On July 15 she was readmitted, the ascites having re-accumulated, but no further nose-bleeds having occurred. A blood count on July 16 was: red cells, 2,260,000; haemoglobin, 44%; colour index, 0.97; white cells, 4,050; platelets, 283,000 per c.mm. A further 12 pints (6.8 litres) of ascitic fluid was removed and she was discharged on July 17.

The patient's son, aged 33, had had angiomas of the cheek since he was 20. For five years he had had frequent nose-bleeds, up to three or four a week, and had required cauterization of the bleeding patches up to once a year. The daughter, aged 27, had had bleeding from both nostrils intermittently for 10 years, severe for seven years. There was one angioma on her left forefinger; this had only recently appeared. Neither had hepatosplenomegaly.

Comment

The above case illustrates the dictum that the true frequency of the condition would be realized if every physician, dermatologist, or rhinologist seeing cases of recurring epistaxis or multiple telangiectases of the face would inquire into the family history. The patient's daughter, although undergoing cauterization of the nose, was not previously considered to have hereditary haemorrhagic telangiectasia. All members of the family developed angiomas or nose bleeds after the age of 17. This is interesting, and recalls the work of Bean *et al.* (1949) on the angiomas of pregnancy, suggesting an endocrinological basis. The patient's severe anaemia was considered to be due to repeated blood loss in the stools, all tests for occult blood being repeatedly positive. Whether the bleeding arose from oesophageal varices as the result of cirrhosis of the liver, or from angiomas of the stomach or bowel, remains unproved, but Kushlan (1946) has described

cherry angiomas and ecchymotic telangiectases, together with a distended oozing vein on the angulus observed through the gastroscope. The evidence for suspecting that the pathology is that of cirrhosis depends largely upon the presence of hepatosplenomegaly with ascites, the low value of serum albumin and raised serum alkaline phosphatase being of themselves inconclusive.

Treatment with rutin has been disappointing in this case, the anaemia relapsing within a few weeks of transfusion, and the nose-bleeds persisting despite doses of 60 mg. a day. This confirms the observation of Petch (1948).

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AN INTERESTING CASE OF POLYMASTIA OBSERVED IN PREGNANCY

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The occurrence of supernumerary nipples (polythelia) and of supernumerary breasts (polymastia) is well known. As students we meet first with these anomalies of development in the anatomy and embryology classes. In later days, in hospital or general practice, it is not uncommon to see patients in whom there are one or more supernumerary nipples; less frequently we may see a patient in whom supernumerary breasts are present. By the very nature of the examinations required, the hypertrophic and secretory changes which take place in the breasts, and the interest involved in breast-feeding, it is probable that most cases of polymastia are seen in pregnant women.

Case Report

A 2-gravida, aged 20, reported to the antenatal clinic of the Eastern District Hospital, Glasgow, on April 25, 1949. Her last menstrual period began on September 17, 1948, and her expected date of confinement was June 24, 1949. She had been pregnant on one occasion previously, and had delivered herself normally of a live male child weighing 6 lb. 8 oz. (2.9 kg.) in 1946. The baby was bottle-fed.

Her urine was clear of abnormal constituents, her blood pressure was 120/50 mm. Hg, and her weight was 9 st. 6 lb. (59.9 kg.). She made no complaint. She was of short

stature, and appeared otherwise normal and healthy. Examination of the chest revealed large breasts, which on closer inspection were seen to have bilateral secondary nipples and areolae on the lower curves, and in this region the breasts were locally slightly fuller. Colostrum could be expressed from each nipple. Lower down, on the abdomen, were two other supernumerary nipples. Arrangements were made, with the patient's consent, to record these findings by photography (see illustration). Examination of her heart

Photograph showing the extramammary glands with their nipples and areolae under the normal breasts. The supernumerary nipples on the abdominal wall are clearly visible.

and lungs did not reveal any departure from the normal. Abdominal palpation showed the uterus to be enlarged to a size consistent with a 26-weeks pregnancy: the foetal head was presenting. Her pelvis was examined and was considered to be of adequate proportions. The results of blood examination were: Wassermann reaction, negative; blood group, O; rhesus factor, positive.

From this time until she was admitted to hospital in labour she was seen regularly, and she remained well throughout the remainder of pregnancy.

She was admitted to hospital at 3 a.m. on June 24, her pains having started at 11 p.m. on the previous day, and a live female child weighing 6 lb. 9 oz. (3 kg.) was delivered spontaneously at 4.10 a.m. on the day of admission. The placenta (complete) and membranes (ragged) were delivered normally at 4.20 a.m.

It was decided to stimulate the milk secretion as much as possible, and when lactation was established the baby was to have test feeds from each of the four upper nipples. By June 27 the breasts were secreting very well, and it was considered that lactation was established adequately. Test-feeding was started on the following day. On the right side the baby did well from the upper normally placed nipple, but the secretion from the lower nipple was negligible, and test feeds on the right side were abandoned. On the left side comparative test feeds were satisfactory: from the upper normally placed nipple the baby was able to get an average of 14 oz. (400 ml.) of milk in 24 hours, and from the lower nipple an average of 7½ oz. (213 ml.) in 24 hours. The baby's weight-chart showed that it received adequate feeds. It was noted that from whatever nipple the baby was being fed the other three were stimulated to secrete spontaneously and freely. The patient co-operated very well, but it was obvious that she was suffering some discomfort by being almost bathed in milk at every feed, and, in spite of being screened, she felt embarrassed. Because of this it

was decided to stop breast-feeding completely, and on July 2, the day of dismissal, she was given stilboestrol. Prior to dismissal her breasts were palpated and were found to be soft.

As a postscript to this case it is interesting to note that, according to the patient, her husband was unaware that his wife had the supernumerary breasts and nipples.

Discussion

References to abnormal development of the breasts are few, but one excellent account is that of Evans (1923).

According to *Gray's Anatomy* (1935), Hamilton *et al.* (1945), Evans (1923), and many others, there are fairly definite lines—the nipple lines, mammary or milk ridges—which extend on each side of the body ventrally from the roots of the arms to the inner aspects of the thighs in the groins. At any point along these lines it is possible for nipples and glands to develop by epithelial down growths. That this is so has been shown by Fisher (1947), who described a case of fibro-adenoma in breast tissue occurring in the groin. The normal breasts develop in the position which Evans (1923) states corresponds to the fourth archaic position, the first three of these positions being at a higher level. In the case described it is apparent that the normal breasts have appeared, and extramammary glands have developed in the fifth archaic position, that on the right being very rudimentary. In addition, at lower levels, supernumerary nipples have grown.

The mere presence of these anomalies of development is probably of little significance under normal conditions, unless on aesthetic grounds. During pregnancy and the puerperium, however, when the mammae are under the active influence of hormones, the importance of the extramammary glands may become evident, and in a negative way as in the case described. Because of the amount of milk which is secreted from all the glands when the baby is suckled at one, and the discomfort occasioned thereby to the mother, it may be necessary to stop breast-feeding. The position is paradoxical. It may be argued that the control of the secretion could be obtained by judicious administration of stilboestrol, but it is contended that the flow from the supernumerary breasts, though reduced, would continue, nevertheless, even though the extramammary glands were not suckled. The attitude of the mother, of course, must be taken into consideration also.

Summary

A case of polymastia in pregnancy is described in some detail, particularly with regard to lactation and breast-feeding.

In discussing the anomaly of development in the puerperium, it is held that breast-feeding is probably contraindicated, the situation being paradoxical.

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