A CASE OF LIPOID NEPHROSIS

BY

E. A. LUMLEY, M.C., M.B., B.Ch., D.P.H.

SQUADRON LEADER R.A.F.M.S.

The clinical and chemical criteria required to support the diagnosis of lipid nephrosis as described by Muller, Epstein, and others are as follows: marked oedema and proteinuria (with cylindruria and lipoiduria but no haematuria), oliguria, lipaemia (hypercholesterolaemia), decreased blood proteins with alteration of the albumin-globulin ratio, decreased basal metabolism, no nitrogen retention, and normal or insignificant rise of blood pressure.

The details of the case described below comply with the majority of the conditions specified. One or two omissions of relatively minor importance are explained by the fact that the patient was attended at her home, the distance from the laboratory making it difficult to carry out as systematic an investigation as I would wish.

REPORT OF CASE

Mrs. B., aged 26, consulted me for swelling of the feet and legs, which had been coming on gradually for six weeks. Apart from a certain amount of local discomfort there had been no malaise or acute illness during or prior to that period. Except for slight pallor she looked and felt perfectly well, and was, in fact, induced by friends to seek medical advice. The patient has one child, aged 2½ years; the pregnancy and puerperium were normal, the urine, examined during the later months of pregnancy, revealed no abnormality. The history, therefore, is entirely negative.

On examination, no septic focus was detected in the mouth or throat, the teeth and tonsils being in perfect condition. Abdominal and gynaecological examinations were also negative. There was marked oedema of the feet and legs, pitting being demonstrable to the upper extremities of the tibiae, but none elsewhere. The heart was normal as to size, sounds, etc.; radial and brachial arteries were soft and of moderate tension; blood pressure was 125/88 (in subsequent examinations the systolic pressure has varied between 122 and 128). There was no evidence of fluid in the pleural or peritoneal cavities.

The first twenty-four-hour specimen of urine collected measured 700 c.cm., with specific gravity 1025, and gave a heavy cloud on boiling with dilute acetic acid.

The case was treated on general principles until further investigation could be made—namely, rest in bed, reduction of protein and salt in the diet, with a mild diuretic and diaphoretic mixture. Moderate diuresis occurred, and the oedema was considerably reduced after five days, the patient being then allowed up on condition that she rested for two hours in the afternoons.

In the meantime the volume of the urine had increased to 1,000 c.cm. per twenty-four hours; albumin, estimated on two occasions by Esbach's albuminometer, was 0.5 and 1 per cent. Microscopical examination of the centrifuged deposit failed to reveal any casts or erythrocytes, this being a constant finding up to the present (the seventh week of observation), with the exception of a recent examination, when "a very few granular casts" were reported, blood still being absent. During the first five weeks a moderate number of refractile fatty globules were constantly present in the deposit. The absence of casts and blood, and the severe albuminuria found in the preliminary examination of the urine, coupled with the marked oedema and moderate blood pressure, led me to suspect that I might be dealing with an example of the syndrome of nephrosis, and, accordingly, certain determinations in blood chemistry were carried out.

Biochemical Examinations of Blood and Urine

Blood cholesterol estimated in the first and second weeks of observation was present to the extent of 296 and 300 mg. per cent. respectively, with blood urea 32; urea in the urine at this time varied between 2 and 3 per cent. (These early estimations were carried out mainly with a view to a provisional diagnosis, and the determination of whether there was nitrogen retention or not, in order that a high protein diet could be instituted as soon as possible if a low urea figure indicated that course.)

A more complete analysis of blood and urine was carried out later (sixth week), the patient having then been on the special diet for three weeks. The results were as follows:

Blood.—In 100 c.cm. the total protein was 6.1 grams, urea 34 mg., albumin 3.91 grams, non-protein nitrogen 30 mg., globulin 2.19 grams, cholesterol 226 mg.

Urine.—Specific gravity was 1023. Total protein was 10.4 grams, albumin 8.9 grams, and globulin 1.5 grams per litre. No sugar, pus, or blood was found. A very few granular casts and a few epithelial cells were present in the deposit, but there were no erythrocytes or lipid droplets.

Progress of Case

On being allowed up at the end of the first week, the patient still had slight oedema of the legs, and in addition some swelling of the hands in the morning, which, however, usually passed off during the course of the day. Epstein's diet, rich in protein, with low fat and moderate restriction of carbohydrate, was commenced during the third week, the amount of fluid per day being limited to one and a half to two pints. The daily amount of urine, which increased up to 1,000 c.cm. at the end of the first week, estimated on various occasions since, has been 1,100 to 1,200, which may be considered about normal, considering the fluid intake. The oedema of legs and hands, which still persisted when the special diet was instituted, has now (seventh week) completely cleared up. It may be stated that, with the exception of occasional aperients, no drug, diuretic, or tonic was prescribed from the end of the first week up to the date of the last blood analysis. A course of thyroid extract has, however, now been commenced. The patient, never particularly ill at any time, appears to be in a very fair state of health, in spite of the drain of protein in the urine, amounting to 11 or 12 grams per diem.

The case is presented with the suggestion that it probably might be included in the group of chronic nephrosis.

Laboratory examinations were kindly carried out by Wing Commander H. E. Whittingham and Flight Lieutenant Hugh Corner of the Royal Air Force Medical Service.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

TRAUMATIC CLEFT PALATE: MICROCOCCUS
CATARRHALIS MENINGITIS: RECOVERY

Micrococcus catarrhalis meningitis is rare in children. Its victims usually find their way into the post-mortem room. The following exception from the surgical ward of the East London Hospital for Children is worth recording.

M. H., a girl aged 5½ years, was admitted on June 17th, 1930, with an astonishing history. A stable door had fallen off its hinges on top of the child, and one of the spikes had pierced the roof of her mouth. She was pale, bleeding profusely from nose and mouth, and yelling lustily. There was no haemorrhage from the ears, but considerable effusion of blood had taken place into the soft tissues of the eyelids and beneath the conjunctivae. The palate was split in the mid-line as far forward as the alveolar margin, which was itself intact. With the exception of a few bruises the face had escaped injury. There was no escape of cerebro-spinal fluid from nose, mouth, or ears. The child became considerably shocked, and the pulse for more than twenty-four hours continued in the neighbourhood of 140 to the minute. On the following day she was drowsy and irritable, with marked photophobia and retraction of the head and neck. There was no delirium or vomiting. Kernig's sign was positive. The temperature rose to 102° F. Lumbar puncture yielded a turbid fluid under pressure, which contained more than 20,000 polynuclear leucocytes per c.mm. The protein was raised to 180 mg. per 100 c.cm. No organisms were seen in the smears, and there was no growth on cooked blood in forty-eight hours. Polyvalent antistreptococcal serum (20 c.cm.) was given intravenously, as it was thought, in view of the nature of the injury, that the streptococcus was responsible for the meningitis. The patient continued to be dangerously ill, and lumbar puncture was repeated on the following two days, when