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ACUTE SCHÖNLEIN-HENOCH PURPURA TREATED WITH PREDNISOLONE

REPORT OF A CASE

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Schönlein-Henoch purpura is a disease associated with an increased permeability of the capillary endothelium permitting the passage of blood cells and plasma (Wintrobe, 1946). The specific aetiology is not clear (Davis, 1948), although evidence points to a hypersensitivity to an antigen which may be bacterial or non-bacterial (Gairdner, 1948; Jensen, 1955). Prognosis is dependent upon whether or not severe renal damage is caused (Ackroyd, 1953). Until recently it was generally believed that no medication had a favourable effect on the natural course of the disease (Davis, 1948; Gairdner, 1948). When the adrenal and pituitary steroids were found to exert favourable responses in various allergic disorders, several investigators studied their effect on Schönlein-Henoch purpura. The results have been variable, but a symptomatic response has been observed in at least half of the reported series (Stefanini *et al.*, 1950; Levinson *et al.*, 1951; Adamson *et al.*, 1953; Leese, 1955). It was therefore of interest to observe the effect on the course of the disease of prednisolone. Stefanini and Martino (1956) stated that this drug had caused striking remissions in two cases of the acute variety of Schönlein-Henoch purpura.

The following is a report of a typical case of this disease complicated by severe and progressive renal involvement. The downhill course was apparently unaffected by cortisone, but was dramatically reversed by prednisolone.

Case Report

A 10-year-old schoolgirl was transferred to the Dundee Royal Infirmary because of purpuric eruption and rectal bleeding. She apparently had been in excellent health until three and a half weeks previously, at which time she had an abrasion of her knee requiring no specific treatment. The following day she had had an uneventful dental extraction. Four days later she complained of abdominal discomfort and vomiting. Her family doctor found she had a fever and gave her 500,000 units of penicillin. Her symptoms continued, and, as she was also suspected of having tonsillitis, she was admitted to a fever hospital one week after the onset of her illness. At that time physical examination was negative except for enlarged tonsils. Her white count, sedimentation rate, haemoglobin, urinalysis, and chest x-ray films were all within normal limits.

Within several days of admission, however, scattered haemorrhagic spots appeared over her arms. These soon spread to involve her back, buttocks (see Fig. 1), and lower extremities. Two days after the appearance of the rash, gross blood was observed in her stools. She also complained of stiffness in her right knee and both shoulders and elbows, though no redness, swelling, or tenderness was noted in these areas. The following day she had pain in the joints

Fig. 1.—Haemorrhagic eruption on buttocks of a 10-year-old girl with Schönlein-Henoch purpura; second week of illness.

of the left hand and a small effusion was found over the dorsum. New crops of haemorrhagic spots were constantly appearing. Albuminuria occurred, and one week after the appearance of the bloody stools fresh blood was found in her urine. A diagnosis of anaphylactoid, or Schönlein-Henoch, purpura was therefore made, and the patient was transferred to the Royal Infirmary approximately three and a half weeks after the initial onset of her symptoms.

At this time she was an acutely ill, pale girl complaining of colicky abdominal pain, which came in spasms that lasted from five to ten minutes. A haemorrhagic eruption was present over buttocks, abdomen, and extremities; the face was clear. The rash varied from fresh spots to faded areas. Examination of heart and lungs was negative. Blood pressure was 130/80. Abdominal examination showed no enlargement of liver or spleen, and though some tenderness was present the abdomen was soft throughout. Neurological examination was negative. Joints were normal. Laboratory studies showed: haemoglobin, 8.8 g. per 100 ml.; white blood cell count, 16,000 per c.mm.; E.S.R., 35 mm. in 1 hour; blood urea, 20 mg. per 100 ml.; cholesterol, 120 mg. per 100 ml.; serum bilirubin 4 mg. per 100 ml.; while the serum sodium, potassium, chloride, and carbon-dioxide-combining power were all within normal limits. The platelet count was 851,000 per c.mm. The antistreptolysin titre (drawn four weeks after admission) was within normal limits. X-ray films of chest and abdomen and electrocardiograms were

FIG. 2.—Summary of pertinent clinical and laboratory findings and of treatment.

within normal limits. No organisms were found in blood cultures or throat swab. The stools were grossly bloody. The urine had albumin and red-blood cells but no casts.

After four days' observation the patient was treated with cortisone, 200 mg. the first day, 100 mg. the second day, and 50 mg. for five subsequent days. Despite this medication, abdominal pain persisted and new crops of haemorrhagic spots appeared. There were no changes in the character of the stool or urine. There was a slight rise in the diastolic blood pressure, but serum electrolytes were unchanged. On the seventh day of treatment the patient sustained for the first time in her life two grand-mal epileptic seizures, which left her with a transient paralysis on her left side for twelve hours. Cortisone was then discontinued and phenobarbitone given (which medication was continued for the remainder of her stay in hospital).

Several days later, owing to the persistence of all symptoms, a test dose (15 mg. daily) of prednisolone was given for three days. She underwent a prompt symptomatic improvement and became alert, co-operative, and cheerful for the first time during her admission. On the third day of this treatment a decrease in the bleeding into the bowel and urinary tract was noted. At this time, however, periorbital oedema appeared, although blood pressure, serum electrolytes, and blood urea were unchanged. Treatment was again stopped.

The patient continued to deteriorate, and by the next week hyaline and red blood cell casts were found in her urine. It was decided that in view of her previous response to a small dose of prednisolone she should be given a definitive course of therapy, and this was started two months after the onset of her original illness. She received 40 mg. of prednisolone for three days, 30 mg. for the next two days, 25 mg. for four days, and then was maintained on 15 mg. until she was

asymptomatic and showed laboratory evidence of improvement (a period of eleven days). The dosage of the drug was then further decreased in 5-mg. steps and finally omitted altogether.

The subjective response to treatment was marked. The patient again became cheerful and co-operative, her appetite improved, and the abdominal discomfort disappeared. Objectively, she showed no further evidence of skin eruption, the casts and then the red cells disappeared from the urine, and the blood from the stools. The only residuum was the mild but persistent albuminuria. She was discharged home ten days after the cessation of prednisolone therapy. A follow-up one month later showed no blood in the urine or stools and no rash. Her blood pressure, blood urea nitrogen, and electrolytes were normal, but a trace of albumin was still present. She had been fully active.

A summary of the pertinent findings in the clinical course is shown in Fig. 2.

Summary

A case of Schönlein-Henoch purpura treated with apparent success with prednisolone is presented. Clearly, in a disorder so prone to spontaneous remission, caution is necessary in the interpretation of treatment. However, the patient did not respond to cortisone but did give evidence of response first to a small dose and subsequently to larger doses of prednisolone. The dramatic remission is in accord with the few other reported cases so treated

(Stefanini and Martino, 1956). Only a long-term follow-up will determine whether the patient has sustained permanent renal impairment.

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A brief review of current research in the U.S.A. on injuries to occupants of motor-cars in road accidents has been written by H. J. H. Starkes, Ph.D., and published by the Department of Scientific and Industrial Research (*Research on Injuries Sustained in Road Accidents*, H.M.S.O., 2s.). In the U.S.A. about three-quarters of all people killed on the roads are occupants of motor-vehicles, whereas the corresponding figure in Britain is about one-sixth; consequently the American data may be of rather indirect relevance to British problems, derived as they are from motor-cars and roads that differ appreciably from those over here. For instance, the 'doors' of American motor-cars contribute notably to the death rate by bursting open in crashes and allowing the occupants to be ejected; this doubles the risk of serious injury or death.