

Onset of erythema nodosum during pregnancy: a case report

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Introduction

Erythema nodosum (EN) is the most widely recognized form of panniculitis. It is classified as a vasculitis characterized by an eruption of painful, reddish-purple swellings which generally occur on the extensor surfaces of the lower limbs. These swellings normally range from 3 to 15 cm in diameter and the condition usually subsides within a period of 3 to 6 weeks [1-3]. The occurrence in women is 9 times greater than in men and is most common between the ages of 20 and 45 [2, 3]. Before puberty and after the age of 45 the occurrence is practically the same in both sexes [4, 5].

The most common factors thought to cause EN are listed in Table 1. Amongst these we would like to point out the link with the use of oral contraceptives (oestro-progestogens) [6, 7] and pregnancy [8, 9]. The condition may be considered as a non-specific manifestation and from the point of view of immunity may be due to the formation of immunocomplexes and to the depositing of these at a perivenular and epidermic level [1-3, 10, 11].

The following report describes a case of a woman who developed EN during her third pregnancy.

Case Report

O. P., a 32-year-old-woman (clinical record No. 507/1996, "S. Maria" Hospital, Terni) in the 30th week of her third pregnancy (*secundipara*), was brought to our attention because of the appearance of EN on her left leg on the third distal antero-lateral area. These lesions were bright red in colour with indistinct edges; they had a maximum diameter of 5 cm, had a hot cupuliform surface and were very painful (Figure 1). From an obstetrical point of view the pregnancy, then in its 30th week, had physiologically evolved both from a hematochemical and ecographical point of view.

In the early medical history of the patient a case of post-streptococcal Glomerulonephritis was known to have occurred at the age of six and was treated with beta-lactamic antibiotics. She also had a tonsillectomy at the age of 8, was allergic to acetylsalicylic acid and all tetracyclines, and had used oral contraceptives at the age of 23 for about two years. In the patient's recent medical history no drugs had been taken and no infections or cases of fever had occurred in the month prior to our observation.

During hospitalisation the following tests were carried out: VES 58; C-reactive protein (CRP) 2.3 mg/dl; third comple-

ment's fractions 118 mg/dl; fourth complement's fraction 28 mg/dl; circulating immunocomplexes (CIC) 2.6 ug/ml; anti-cardiolipine antibodies (ACA) - IgG 7, and -IgM 5; positive anti-nuclear antibodies (ANA) (pattern fine speckled, titre 1:160). In our examination no blood was found in the stool and the urinalysis and culture of the urine were negative; electrophoresis of the seroproteins was normal; the Tine-test was negative; the dosage of ACE and the antistreptolysin level was within the normal ranges (both by microstreptokit and streptozyme methods).

Medical therapy was carried out with deflazacort, administered in a single daily dose of 20 mg. This treatment was started in the 33rd week of pregnancy and the dose was decreased at a rate of 5 mg per week. Following treatment a marked improvement could be seen in the symptoms, with a reduction in the size of the lesions leading to their complete disappearance. At the end of the therapy the tests carried out in the 30th week were again repeated with the following results: VES 28; CRP 0.3 mg/dl; C'3 122 mg/dl; C'4 32 mg/dl; CIC 1.4 ug/ml; ACA-IgG 3; ACA-IgM 3; ANA negative; electrophoresis of seroproteins within the normal ranges.

The patient gave birth spontaneously at 40 weeks; the new-born baby was male and weighed 3400 g. with an Apgar score of 9/10.

Discussion

Nowadays it is not possible to conclude that female hormones are a direct cause of EN. However, there is an evident link between hormonal changes and EN [8], and it is thought that although the use of oral contraceptives and pregnancy are not the direct cause of this vasculitis,

Table 1. — *Some causes of Erythema nodosum.*

Drugs	Infectious agents and diseases
Sulfonamides	<i>Bacteria</i>
Penicillins	Streptococcal pharyngitis
Oral contraceptives	Salmonella enteritis
Gold salts	Yersinia enteritis
Prazosin	Psitacosis
Aspirin	Chlamydia pneumoniae
Phenazone	Mycoplasma pneumonia
Bromides	Meningococcal infection
Inflammatory bowel diseases	Venereal diseases
Ulcerative colitis	Neoplasms
Crohn's disease	Leukaemia
Intestinal by-pass surgery	Lymphomas

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they do create a 'favourable' hormonal environment for those factors or agents that cause the disorder [9, 10] also taking into consideration that EN is more common in women during the years of fertility [2-5].

Contrary to the data of available statistics which show that the majority of cases occur in the first three months of pregnancy, in the case we examined the condition occurred in the third quarter of the pregnancy [8, 9].

Even though EN is a self-limiting process which spontaneously subsides within 3-6 weeks, some authors have proposed a pharmacological approach in an attempt to speed up the healing process and to attenuate the symptoms. Although no specific treatment is recommended, non-steroid anti-inflammatory drugs such as acetylsalicylic acid, naproxene and indometacin [9, 10] are still the first choice, even if a systemic treatment with corticosteroids often proves a more valid alternative [12, 13]. Given that our patient had previously shown an allergic reaction towards acetylsalicylic acid and given that the condition of pregnancy prohibited the use of non-steroidal anti-inflammatory drugs, treatment with steroids was decided upon which led to a rapid clinical and symptomatic improvement.

The rationale behind the use of corticosteroids, confirmed by optimum clinical results [13], and the fact that since the early 80s fewer and fewer cases of EN linked to the use of oral oestro-progestogen contraceptives have been reported (due to the low hormonal dosage), has stimulated us to research the more subtle interactions between hormonal balance and the immune system during pregnancy. Our scope is to have a better understanding of the etiopathogenetic mechanisms at the root of immunomediate pathology.

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