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Case Report

Reticular telangiectatic erythema by breast implants

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ABSTRACT

Reticular telangiectatic erythema is a benign dermatosis which has been described on patients with pacemakers, implantable devices or materials inserted in their body. Etiology of this entity hasn't been clarified since the first description in 1981 but it is suggested that physical or mechanical factors have to be involved.

We present the second case of bilateral reticular telangiectatic erythema by breast implants described in the literature.

Introduction

Reticular telangiectatic erythema is a benign and rare dermatosis which appears on patients with some kind of prosthetic device or material inserted in their body.[1] The latency of the disease from the insertion of the prosthetic device to the appearance of the lesions is highly variable, ranging from days to years.[1,2]

Clinically, it appears as macules or erythematous plaques which turn white with pressure, with small telangiectases on the surface. The lesions are generally asymptomatic and without desquamation of the surface.

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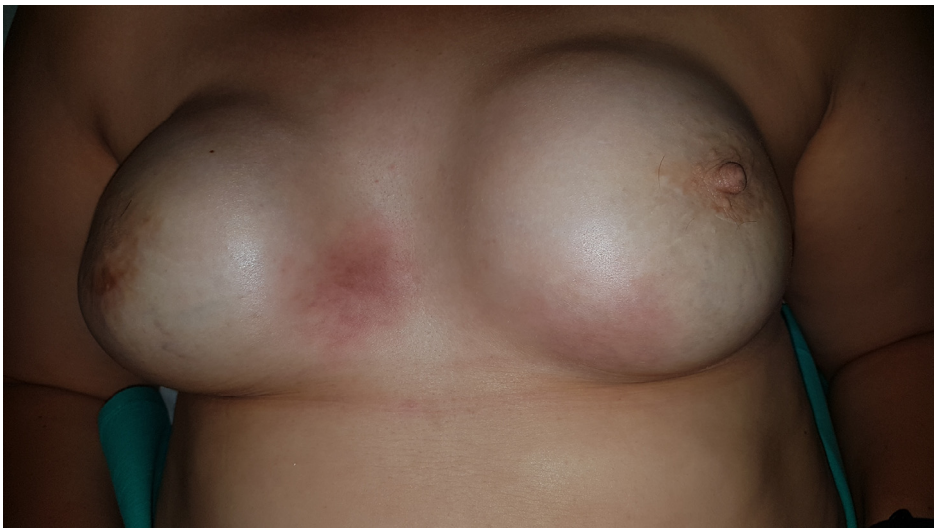

Fig. 1.

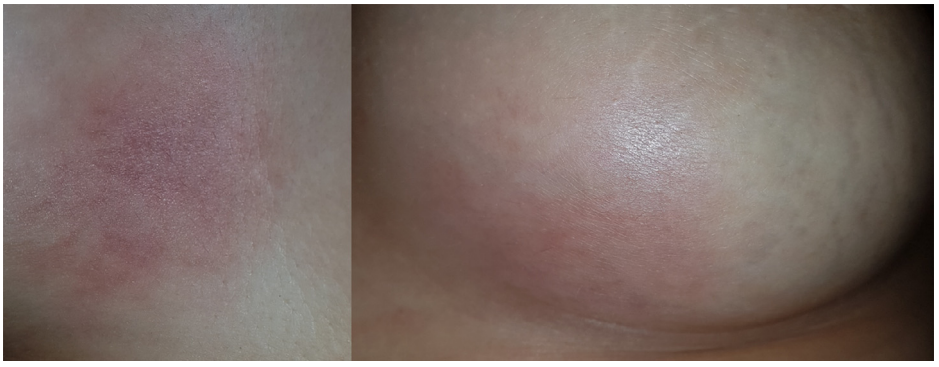

Fig. 2.

A comprehensive anamnesis is essential for an accurate diagnosis. It must include details of previous surgery, materials or devices that may have been inserted in the area, time from the procedure and time of evolution of the skin lesions. It is necessary to rule out the presence of local or systemic symptoms such as fever, itching or pain which may suggest the presence of a different disease.[2]

Case report

The patient is a 52-year-old woman with a history of prophylactic mastectomy due to a mutation in the BRCA1 gene, followed by the placement of two breast implants (370 g silicone Allergan 410 MX anatomical implants) approximately 5 years prior to consultation at our department. She reported the appearance of two skin lesions of 6 months of evolution that were completely asymptomatic (Fig. 1), located on the internal region of the right breast and the lower region of the left breast (Fig. 2). She had previously received topical antifungal therapy with 1% terbinafine without any improvement of the lesions. She had not received treatment with topical corticosteroids.

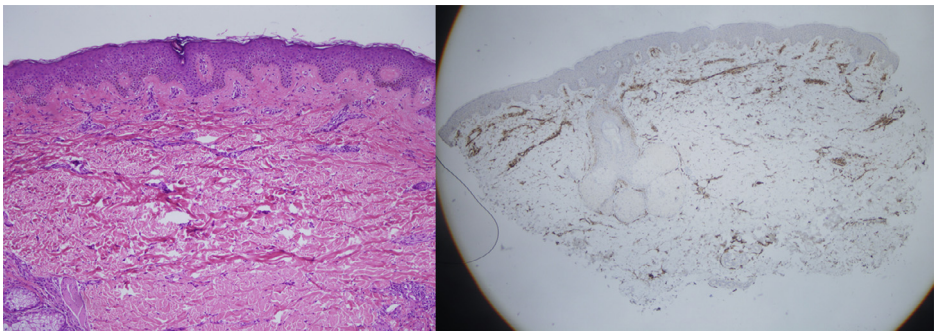

Fig. 3. On the left, H-E stain with slight superficial and medium perivascular lymphohistiocytic infiltrate with abundant vascularization. On the right, inmunochemistry stain for CD 31.

The patient did not show fever, malaise, pain, itching or discomfort in that area, and she could not recall any kind of triggering episode for her symptoms. She only reported a mild loss of sensitivity on the operated area that had progressively decreased over time since the operation.

Upon exploration, two erythematous plaques were observed on the areas previously described, with a slight central pigmentation on the plaque on the right breast, with a round shape and poorly defined edges. The lesion did not show an increased local temperature, infiltration or desquamation of the surface. Upon inspection of the region, the skin on both breasts was tense.

A skin 4 mm punch biopsy was made upon a border of lesion of the right breast. The histopathological study revealed the presence of a slight superficial and medium perivascular lymphohistiocytic infiltrate associated with abundant vascularization which was more evident with immunohistochemical staining for CD31 (Fig. 3). No mucin or hemosiderin collection were observed on the dermis. The negative results for CD117 and ERG ruled out underlying vascular or breast cell proliferation. The absence of neutrophils or atypical cells on the interior of dilated lymphatic vessels according with lack of symptoms in clinical examination excluded other possibilities. No granulomatous pattern was found on histopathological study.

Previous radiological and ultrasonographic studies did not show any sign of neoplasia underlying cutaneous symptoms beyond post-surgical changes of previously performed interventions.

It was decided not to apply any therapy and to carry out a regular monitoring of the patient.

Discussion

Reticular telangiectatic erythema was first described in 1981 by Gensch and Schmitt after the insertion of a pacemaker on the left side of the abdomen.[3] Afterwards, cases have been described after the insertion of defibrillators, spinal cord stimulators[2]; infusion pumps[4]; non-absorbable sutures[5]; hip, elbow and knee replacements[2,6,7]; and mesh used to repair hernias, among others.[8] In our review we have found only one case associated with the placement of breast prostheses.

The origin of this entity is still not clear. Some of the potential causal factors involved include the generation of an electromagnetic field by pacemakers, implantable defibrillators, spinal cord stimulators and infusion pumps; the heat generated by them[9]; and the changes in local circulation or the pressure applied to the skin surrounding these devices.[7,10] One argument to support the generation of heat and an electromagnetic field of the devices as the cause is the series of cases in which the skin lesions receded after the devices were deactivated,[9] as well as the tests with thermographic cameras which show an increase of the temperature of the areas with skin lesions.[9] These studies do not account for the cases in which no device that can generate heat or energy was placed, such as non-absorbable sutures,[5] hip prostheses associated with organized hematoma,[7] knee prostheses and mesh used to repair abdominal hernias,[8] in which the mechanical factor has been put forward as a possible cause of the lesions.

In most cases, epicutaneous tests were carried out in order to rule out sensitization to the different materials and components of the devices, with negative results.[10] In some cases, imaging tests may be indicated.[7]

The histopathological analysis generally reveals a slight inflammatory lymphohistiocytic infiltrate of the dermis together with several dilated vessels on the superficial and medium dermis, with occasional extravasated red blood cells and hemosiderin collection. In some cases, abundant mucin was found on the dermis that replaced the collagen fibers. The usual findings are not pathognomonic.

Reticular telangiectatic erythema is mainly a diagnosis of exclusion, since there have been no definitive findings (histological or of any other sort) that have been able to confirm the diagnostic suspicion. The time at which the lesions appear is highly variable, and according to the published cases so far, there have generally been no kind of systemic symptoms, except for some cases with mild itching as the only local symptom.[2,8,10]

Although these lesions have generally been associated with the creation of an electric, thermal or magnetic field by different subcutaneous implantable devices, the appearance of similar lesions when none of these potential triggers were present must make us think of other factors.

The treatment in these cases includes monitoring the lesions and a conservative approach, unless required otherwise by some reason,[7,10] although the removal of the implanted devices may eliminate the tension. The literature has described possible therapeutic alternatives, including the use of vascular laser[6] or different topical treatments and sclerotherapy.[1, 5] However, given the small number of published cases, the effectiveness of these interventions has not been proven in the short or the long term.

Conclusions

We present the second case[11] of a bilateral reticular telangiectatic erythema caused by breast implants in which the existence of a mechanical factor and the subsequent alteration of local microcirculation might be the cause.

Declaration of Competing Interest

None.

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Ethical approval

Not required.

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