**Title page**

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**Title**: Chronic recurrent annular neutrophilic dermatosis: a rare entity

**Running head**: Chronic recurrent annular neutrophilic dermatosis

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The patient in this manuscript has given written informed consent to the publication of the case details.

**Abstract :**

We report a new case of chronic recurrent annular neutrophilic dermatosis in a woman.

Through our observation, we aim to make the clinician aware of this rare entity, in order to consider it among the diagnostic hypotheses of annular dermatosis, with centrifugal, recurrent and chronic evolution.

**Case presentation :**

A 50-year-old woman, without particular medical history, presented with recurrent annular plaques on the forearms, evolving for 2 years. On dermatological examination, we found erythemato-oedematous painful and infiltrated plaques with centrifugal extension and fine central scales on the forearms (**Figure 1**). The patient had no fever. The rest of physical examination was normal. The blood tests were within normal levels, in particular there was no biological inflammatory syndrome nor neutrophilia. The skin biopsy confirmed the diagnosis of Sweet syndrome, showing oedema in the superficial dermis and dense inflammatory infiltrate of neutrophils without associated vasculitis (**Figure 2**). There were no associated diseases. The patient was treated with high-level-topical corticosteroids resulting in progressive regression of the lesions, within one week. During 8 years of follow-up, the patient continued to have one recurrence, each year, of the same skin lesions (**Figure 3**), located on the forearms, which improved with the same topical treatment.

Our patient had never met the Von Den Driesch criteria defining Sweet syndrome. She had never fever, nor extra cutaneous signs nor biological abnormalities. Our case is compatible with an exceptional entity which is chronic recurrent annular neutrophilic dermatosis. Only ten cases have been reported for more than thirty years, since its first description by Christensen et al.1 This neutrophilic dermatosis is characterized by: the recurrence of annular skin lesions without systemic signs, lack of biological inflammatory syndrome, histological features of Sweet syndrome and absence of any underlying pathology.2

**Authorship:** All authors had access to the data and a role in writing this manuscript.

**Author contributions :**

The authors fulfill the ICMJE Criteria for Authorship and contributed equally.

Dr Manaa Linda, is the guarantor of the content of the manuscript, included the data and analysis. Dr Korbi Mouna contributed to interpretation of data and revision of the manuscript. Dr Njima Manel contributed to data collection. Dr Akkari Hayet and Dr Soua Yosra contributed to analysis and interpretation of data. Dr Zili Jamaleddine and Dr Belhadjali Hichem contributed to final approval of the version of the manuscript to be submitted.

## Consent :

The patient in this manuscript has given written informed consent to the publication of the case details.

**References:**

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**Figure legends:**

**Figure 1:** Infiltrated erythemato-oedematous plaque on the forearm with centrifugal extension.

# Figure 2: Papillary dermal oedema with dense neutrophilic infiltrate without vasculitis (Hematoxylin-eosin stain × 100).

**Figure 3:** Recurrence of the annular skin lesions on the forearms.