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*Case Report*

**Cutaneous Plasmacytoma Associated with Squamous Cell Carcinoma of the Sacro-Coccygeal Region**

**Authors**

**Gianfranco Orlandino, Juri Tassinari and Tommaso Fabrizio**

Unit of Plastic and Reconstructive Surgery, IRCCS – Centro di Riferimento Oncologico Basilicata. Rionero in Vulture (PZ), Italy

**Roberto Guariglia and Pellegrino Musto**

Unit of Haematology and Stem Cell Transplantation, IRCCS – Centro di Riferimento Oncologico Basilicata. Rionero in Vulture (PZ), Italy

**Luigina Di Giovannantonio and Giulia Vita**

Unit of Histopathology. IRCCS – Centro di Riferimento Oncologico Basilicata. Rionero in Vulture (PZ), Italy

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## **Abstract**

We describe the case of a patient who received the diagnosis of squamous cell carcinoma of the radio-treated skin of the sacrococcygeal region where an extramedullary plasmacytoma had been identified one year before. We think that the plasmacytoma was born by a malignant transformation of a host-inflammatory reaction to a not-detected epithelial tumor. It can also hypothesized that plasma-cell dyscrasia or post-radiation inflammatory reaction had promoted the squamous cell carcinoma occurrence.

**Keywords:** Extramedullary plasmacytoma, squamous cell carcinoma, radiotherapy, skin island flaps.

## **Introduction**

Extramedullary plasmacytoma (EMP) is a plasma-cell tumour that originates from soft tissues. Diagnosis requires a biopsy-proven monoclonal plasma cell infiltration of a single site without evidence of systemic disease (bone marrow involvement, hypercalcemia, lytic bone lesions, anemia or renal disease); a monoclonal paraprotein is detected in the serum and/or urine in fewer than 25% of patients [Dimopoulos, 2002; UKMF, 2004; Weber, 2005]. Since EMP, as well as solitary bone plasmacytoma, is a highly radiosensitive neoplasm, the treatment of choice is radiotherapy given at the dose of 35-45 Gy. Chemotherapy and surgical procedures are rarely necessary because no clear evidence exists that they can reduce the probability of

progression to multiple myeloma or increase disease-free survival [Weber, 2005; Chao, 2005].

Approximately 90% of EMP occur in the head and neck mucosa, especially in the upper respiratory tract including nasal cavity, sinuses and oropharynx, while skin represents an infrequent localization [UKMF, 2004].

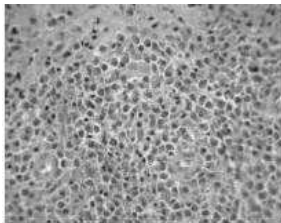
What we present here is an unusual case of cutaneous EMP associated with squamous cell carcinoma (SCC) localized at sacro-coccygeal region.

## Case Report

A 56-year-old male was admitted at the Onco-Hematology Department of our Institution on September, 2006, because of a large (10 cm), infiltrating skin lesion of the sacral region. An incisional biopsy was performed and the histo-pathological examination revealed the presence of a diffuse dermic-hypodermic plasma cell neoplastic infiltration [Figure 1], with lambda light-chain restriction. The patient was further investigated: the absence of bone marrow plasma cell infiltration, lytic bone lesions at skeletal survey, hypercalcemia, anemia and renal disease supported the diagnosis of solitary, cutaneous EMP. No M-component was detected at serum and urine immunofixation. On December, 2006, the patient started a



radiotherapy treatment with a dose of 40 Gy subdivided in 20 fractions of 200 cGy each.

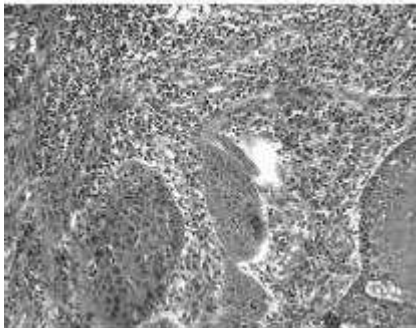


**Fig. 1: Extramedullary Plasmacytoma of the Sacro-Coccygeal Region; Ematossilin- Eosin Coloration (A) and Immunohistochemistry for Lambda Chain (B), 40X Magnification**

A few weeks after the end of radiotherapy, a suppurative inflammatory infiltration developed at the cicatrix level. The patient was initially treated with systemic antibiotic therapy and local medications; however, because of the inefficacy of this therapy, he went through a surgical drainage of the abscess. The removed material was addressed to pathology examination, which excluded the relapse of the plasma cell disease or the presence of other neoplastic lesions, exclusively confirming an inflammatory process.

Three months later, however, the skin lesion had significantly worsened: it was 20 x 25 cm large, hard, fixed on the lower levels, with pus that still discharged from a fistulous tract. Therefore, the patient was addressed again to the operating theatre. The lesion and all the involved soft tissues were completely removed.

The histological examination revealed the presence of an invasive, differentiated SCC with surgical margins in healthy tissue and no signs of EMP [Figure 2]. In order to repair the recipient zone, two very large skin and soft tissues island flaps, pedicled on the perforating vessels of the superior and inferior gluteus arteries, were harvested and tiled on the middle line [Figure 3]. To date, after forty-four months of follow-up, the patient does not show any evidence of relapse of both neoplasms.



**Fig. 2: Squamous Cell Carcinoma of the Sacro-Coccygeal Region; Ematossilin-Eosin Coloration, 20X Magnification**



**Fig. 3: Planning of Removal and Reconstruction Procedures (A); Recipient Zone with Complete Healing after Plastic Surgery (B)**

## **Discussion**

Simultaneous occurrence of EMP and SCC is rare and has been only occasionally reported at lung, tonsil and breast level [Dasmahapatra, 1986; Junquera, 2009; Cao, 2009]. In addition, Jayagopal et al. described a case of SCC of the skin where EMP was evidenced at the margin of the specimen. These authors supposed that EMP might have reflected a malignant transformation of a host-immune reaction to a previous SCC [Jayagopal, 2004].

In our patient, SCC was identified on samples obtained by a large excision of a skin tract previously treated with radiotherapy for EMP. The occurrence of SCC on irradiated skin has been described as a possible mutagen effect of radiotherapy [Van

Vloten, 1987]. In our case, however, the time from treatment to the identification of SCC was probably too short to explain this linkage.

The hypothesis that the two neoplasms were synchronous is also weak, since SCC and EMP are both rare, as single disease, at sacro-coccygeal region; on the other hand, no simultaneous evidence of both disease was shown in our patient. Even if the hypothesis that EMP is due to a malignant transformation of a previous reactive plasmacellular infiltration is the most acceptable, we favour the alternative possibility that EMP by itself, in combination with post-radiation persistent chronic inflammatory reaction, could have played a (cytokine-mediated?) local “*oncologic promoter*” role, inducing the rapid development of SCC.

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