

The Research Unit “Dermatopathology – Pigmented Skin lesions”, established at S. M. Annunziata Hospital (Florence) in 1998, is directed by Dr. C. Urso and works in the field of dermatopathology. The major interests are 1) the histological diagnosis of melanocytic skin lesions and melanoma; 2) the study of sentinel lymph node biopsy in melanocytic lesions; 3) the morphology and diagnosis of sweat gland carcinomas.

The problem of dysplastic nevus was studied between 1998 and 2001. A detailed analysis of a large series of nevi with various clinical appearance has evidenced that melanocytic nevi, when studied for a certain number of histological parameters, reputed to be diagnostic for “dysplastic nevus”, cannot be divided into 2 different classes of lesions, *i.e.* common and dysplastic nevi, but they appear to constitute a continuous spectrum of forms, in which the border between common lesions, not implying an increased melanoma risk, and “dysplastic” lesions, implying an increased risk, is arbitrary. Such results may indicate that the conclusions of studies on “dysplastic nevi” cannot be accepted, because they may be biased by the diagnostic selection of lesions. Results of these studies were published in **The American Journal of Dermatopathology 2000; 22: 391-396** and in **Dermatopathology Practical and Conceptual 2001; 7: 81-85**.

Diagnostic problems in the diagnosis of melanoma were studied since 1998. In particular, the diagnostic value of suprabasal melanocytes was analyzed. Results from an analysis of a large series of melanomas and melanocytic nevi have led to recognize a histological feature, not infrequently present in benign melanocytic lesions, such as Spitz nevi, Reed nevi, recurrent nevi, childhood nevi, genital nevi etc., which may mimic the true pagetoid infiltration of melanoma and must be distinguished from it: pseudoinfiltration. A specific set of histologic elements to distinguish pseudoinfiltration from pagetoid infiltration has been proposed. In pagetoid infiltration, the number of suprabasal melanocytes is generally high, and all the epidermal layers are usually involved. The phenomenon often seems to be multifocal or diffuse and is generally observed in both the central and peripheral portions of the lesion. Epidermal layers appear disconnected, destroyed, and eroded, and the contours of the epidermal spaces containing melanocytes are irregular and indented. In pseudoinfiltration, the number of suprabasal melanocytes is generally low, and only the basal and spinous layers are involved. The phenomenon seems to be focal or spatially limited and is generally observed in the central portion of the lesion. Epidermal layers appear displaced, compressed, but basically intact, and the contours of the epidermal spaces containing melanocytes are regular and smooth. Results of these studies were published in **Giornale Italiano di Dermatologia e Venereologia 2001; 136 (Suppl. 1 al N. 1): 15-18** and in **The American Journal of Dermatopathology 2002; 24: 183-184**.

A multicentric study on the incidence in nevi of current diagnostic parameters used in the diagnosis of melanoma was performed in collaboration with 8 Italian Universities. The results showed that diagnostic parameters reputed useful in the diagnosis of malignant melanoma can be rather frequently found in benign melanocytic nevi. The results were published in **Journal of Clinical Pathology 2005; 58: 409-412**.

An additional multicentric study on the histological features of melanoma was performed in collaboration with 7 Italian Universities. The results have shown that the interobserver reproducibility of current histological parameters used in the diagnosis of melanoma is good, provided that an accurate definition of them is given, and that, therefore, problems in the melanoma diagnosis are not due to poor concordance on them. The results were published in **Journal of Clinical Pathology 2005; 58: 1194-1198**.

Sentinel lymph node biopsy in melanoma was performed and studied since 1998. To-date sentinel nodes from 600 patients have been analyzed. The results of our experience were published in **Pathologica 2003; 95: 133-139** and in **Melanoma Research 2004; 14: 311-319**.

Sentinel lymph node biopsy in atypical Spitz tumors were also studied. In 12 patients with lesions labelled as atypical Spitz tumors, 4 showed lymph node deposits of atypical melanocytes (2 of which of age < 2 years). Results suggested that so-called atypical Spitz tumors possess a relevant metastatic potential and are to be properly considered as malignant tumors (malignant Spitz tumors or spitzoid melanomas). The result are in press in **HumanPathology**.

Between 1998 and 2001, sweat glands carcinomas were studied. A large series of 60 of these rare tumors were studied (the second largest series of the world literature). The study illustrated the clinical and histological characteristics of such uncommon tumors. Moreover, results showed that the classification and the taxonomy of this chapter of pathology may need to be revised. The result were published in **Pathologica 2000; 92: 225-235** and in **Archives of Pathology and Laboratory Medicine 2001; 125: 498-505**.