

The median patient age was 60 years, median of tumor thickness 2.3 mm and median of Clark's level of penetration 3. Positive lymph nodes were shown in 48% of cases. All markers were expressed at higher values in melanoma cells than in surrounding tissue. MMP2 was more prominent in the zone with strong lymphocyte infiltration ( $P=0.018$ ) and deeper layers of tumor penetration. MMP2 exhibited stronger correlation with laminin ( $P=0.035$ ), while MMP9 correlated with galectin-3 expression ( $P<0.001$ ). Laminin and galectin-3 were coexpressed in melanoma cells ( $P=0.044$ ). Although not significant, decreased expression of both markers was found in cases with positive lymph nodes. The study pinpointed the possible markers of melanoma progression. A higher MMP2 expression was found in deeper layers of tumor penetration. However, additional studies in a larger cohort and other histologic melanoma types are necessary to reach more precise conclusions.

## TUBULOCYSTIC CARCINOMA OF THE KIDNEY

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Tubulocystic carcinoma, in the past also known by the terms Bellini epithelioma and low grade collecting duct carcinoma, is a subtype of renal cell carcinoma, not classified in the 2004 WHO classification. It has a distinctive histology, composed of variably sized tubules and cysts surrounded by fibrotic stroma. Recent studies of tubulocystic carcinoma showed it to have a strong male predominance and low but definitive metastatic potential. A 71-year-old man with unspecific abdominal pain underwent ultrasonography and computed tomography studies, which revealed a tumorous mass of the kidney. Nephrectomy with ureterotomy was performed and materials were referred for histopathologic analysis. The tumor measured up to 4.5 cm and was partly cystic with areas of hemorrhage and necrosis. Microscopically, it was composed of irregular cysts and tubules lined with single layer of cuboidal to flat epithelial cells with abundant eosinophilic cytoplasm and large nuclei with prominent

nucleoli. Immunohistochemically, tumor cells were diffusely positive for CK7. Histopathologic report corresponded to unclassified renal cell carcinoma, nuclear grade 3 according to WHO classification, and to tubulocystic carcinoma according to recent literature. Tubulocystic carcinoma is an uncommon tumor with 55 cases reported in the literature. In the Ljudevit Jurak University Department of Pathology archive, two cases of this tumor were diagnosed in the last five years. It is important to recognize this rare subtype of renal carcinoma, although appearing relatively bland, tubulocystic carcinoma can behave aggressively.

## ESTROGEN RECEPTOR POSITIVE CELLS IN GASTRIC AND DUODENAL ULCER: A PILOT STUDY

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It is known that gastric and duodenal peptic ulcer is more common in males. Estrogen has an anti-inflammatory effect, acts on prostaglandin E2 induced mastocyte degranulation and release of vascular endothelial growth factor (VEGF), and also has a role in experimental model of wound healing by converting fibroblasts into myofibroblasts. It also has a sex-specific protective effect in gastroduodenal ulcer. The aim of the present study was to investigate the expression of estrogen receptors alpha (ER $\alpha$ ) in gastric and duodenal ulcer tissue in order to elucidate the observed sex difference in the incidence and impairment process of this disease. Twelve surgical specimens of gastric and duodenal ulcer biopsies were found in the database of the Ljudevit Jurak University Department of Pathology, Sestre milosrdnice University Hospital Center, during the 2000-2010 period. There were six male (aged 30-74 years) and six female (aged 50-81 years) patients. Paraffin embedded gastric and duodenal ulcer tissue was cut on microtome and analyzed on routine stained sections and immunohistochemically with ER $\alpha$  monoclonal antibody. Estrogen receptor positive cells were found in nine of twelve biopsies. ER $\alpha$  positive cells were neutrophils and fibroblasts in the zone of detritus, while ER $\alpha$  positive mastocytes were found in the zone of granulation tissue and fi-

brosis. This is the first study describing the expression of ER $\alpha$  in fibroblasts, neutrophils and mastocytes located in the area of gastric and duodenal ulcer. Our findings suggest that the process of ulcer healing may be modulated by estrogen. Future research should include determination of ER type ( $\alpha$  or  $\beta$ ) in ulcer tissue; investigation of the possible correlation of estrogen receptor distribution in ulcer versus gastric cancer (as ER $\beta$  positive); elucidation of the role of mastocytes in gastric cancer etiology as estrogen receptor positive cells that promote angiogenesis; and research of the possible application of hormone therapy in gastric and duodenal ulcer disease.

### SKIN AND RENAL MANIFESTATIONS OF PAUCI-IMMUNE SMALL-VESSEL VASCULITIS

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Pauci-immune small-vessel vasculitis is characterized by leukocytoclastic necrotizing vasculitis with little or absent immune deposits. This type of vasculitis may represent localized disease (cutaneous vasculitis) or may involve, concomitantly or sequentially, other organs such as the kidneys, lungs, nervous and musculoskeletal system, eye and intestines. Up to 50% of patients with pauci-immune glomerulonephritis (GN) have skin changes related to vasculitis. We reviewed renal pathology archives over a 7-year period and identified 52 patients with pauci-immune GN, 18

of which had pre-existing/concurrent skin manifestations of small-vessel vasculitis. Clinical and laboratory data were reviewed as well as the results of skin biopsies where available. In addition, due to assessing the extent of the disease, Birmingham Vasculitis Activity Score (BVAS) was calculated. Of 52 patients (29 male and 23 female, age range 17-83; median 60.01) treated for pauci-immune GN at Dubrava University Hospital, 10 had pre-existing skin changes related to small-vessel vasculitis. Skin biopsy was performed in 8 patients and the most common finding was leukocytoclastic vasculitis (7/8) with focal fibrinoid necrosis (5/8). Circulating anti-neutrophil cytoplasmic antibodies (ANCA) were detected in 24/52 (46%), anti-proteinase 3 (cANCA) in 4/52 (7.69%), anti-myeloperoxidase (pANCA) in 18/52 (34.6%), and both pANCA and cANCA in 2/52 (3.8%) patients. All but one patient (BVAS index 3) with skin involvement had high BVAS index ranging from 12 to 33. Although most skin small-vessel vasculitides represent mild, self-limiting conditions, they could be the first sign of a more serious, potentially life-threatening systemic disease. The two organs most typically involved and often defining prognosis of systemic vasculitis are the kidneys and the lungs. Untreated patients with severe pauci-immune vasculitis and multi-organ involvement (presenting rapidly progressive crescentic GN and/or alveolar hemorrhage) have a poor prognosis, which may be improved by prompt therapy with immunosuppressive agents and plasmapheresis. Early diagnosis of small-vessel vasculitis and recognition of visceral involvement, followed by aggressive therapy is required in order to preserve or restore the function of vital organs.