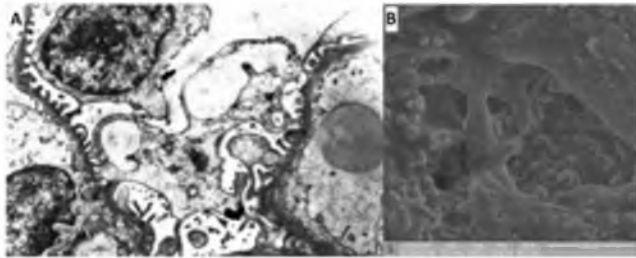


respiratory insufficiency, oedema and brain swelling, hemorrhages into soft tissues were lying in cause of death of animals.

Conclusion: The received experimental data may be used in forensic medicine, pathology, intensive care, rehabilitation.

Fragment of parenchyma of kidneys at overheating at 48°C during 15 min. The tissue is plethoric. Diapedetic hemorrhage was identified. A. TEM (x12000). B. SEM (x3000):



PS-15-031

A pigmented Squamous Cell Carcinoma (SCC) of the skin: a case report

D. Koumoundourou^{*}, P. Mposgana, M. Gkermpesi, P. Ravazoula^{*}
^{*}University Hospital of Rio, Dept. of Pathology, Patras, Greece

Objective: A 70-year-old man was referred to our hospital because of a low-back skin nodule that had appeared the last 2 years. The lesion was surgically treated and the specimen was sent to our pathology lab.

Method: The whole specimen measured 7.3×3.4×1.4 cm with an ulcerated black-coloured skin nodule 3 cm in greatest diameter. Microscopically, a Squamous Cell Carcinoma was recognized while a large number of melanin containing cells was also present among the squamous cell nests.

Results: Immunohistochemically the squamous cells were p63 and 34BE12 positive (and negative for HMB-45 and S-100). Melan-A revealed a minor component of dendritic cells and melanocytes scattered among the tumor cells (which were negative for HMB-45) and the diagnosis was that of a pigmented Squamous Cell Carcinoma.

Conclusion: Pigmented SCC is a rare skin neoplasm arising mostly in mucosal surfaces, while a small number of cases has been described in sun-exposed areas. It is believed that squamous cells produce cytokines and growth factors that promote dendritic cells and melanocytes' proliferation while others suggest that these cells derive from stem cells. Furthermore, the biological behavior of pigmented SCC is not yet well defined since a very small number of cases has been reported.

PS-15-032

The influence of nanoparticles on biological objects

T. Pavlova^{*}, A. Nesterov, L. Pavlova, I. Bashuk, I. Goncharov,
 D. Kolesnikov

^{*}Belgorod State University, Dept. of Pathology, Russia

Objective: The modern opportunities of medical care are basing on usage of new methods of diagnostic and treatment, including nanotechnologies and nanoobjects in clinical medicine and pharmacology.

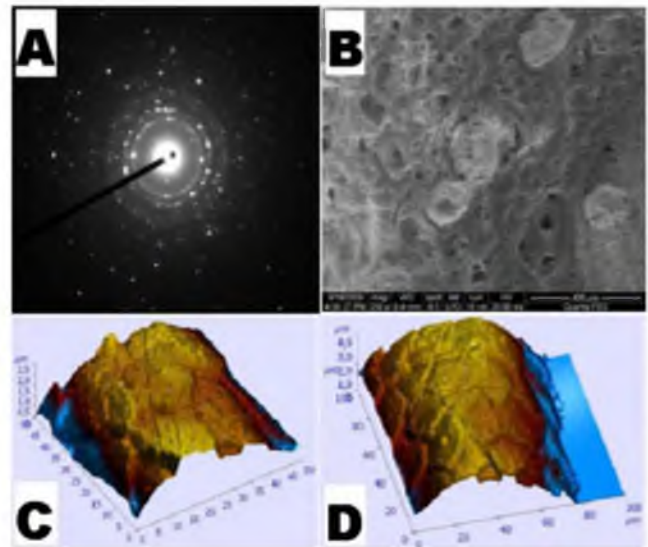
Method: The experiment was carried out on 58 rats. The nanoparticles of iron oxide were used intranasally and by application on skin in kind of suspension. The methods were used: light, transmission, electron, probe and scanning microscopy with microelement analysis.

Results: The wide radius of distribution of iron oxide (till 5 m) at application of nanoparticles on skin was detected, what can be dangerous in ecosystems at their accumulation. The high mortality

of animals(35 %) was detected at intranasal introduction. The obturation of lung bronchioles and central veins of liver by nanoparticles and mucus, what led to violation of blood circulation and alternating processes in parenchymal organs and consequently, to multiple organ failure.

Conclusion: The active introduction of nanoobjects and nanomaterials demands deep exploration of their potential risks and side effects.

Fig 1. A. The picture of electron defraction for nanopowder of iron oxide. TEM (x200 000). B. Fragment of parenchyma of lungs in a week after nasak introduction of nanoparticles. SEM (x 250) C, D. Animal hair a month after spraying nanoparticles:



PS-15-034

MMP-9 expression in odontogenic cysts and tumours

A. Sejda^{*}, A. Starzynska, T. Szmuda, W. Biernat

^{*}Medical University Gdansk, Dept. of Patomorphology, Poland

Objective: Ameloblastoma and keratocystic odontogenic tumor (KOT) are rare odontogenic tumors of the jaws. Odontogenic cysts, including radicular cyst (RC), are the most common lesions in this location. They usually give rise to resorption of the surrounding bone. Matrix metalloproteinase-9 (MMP-9) is an enzyme taking part in degradation of bone matrix. We analyzed MMP-9 expression in different odontogenic lesions.

Method: Twenty-three ameloblastomas, 32 KOTs and 27 RCs were immunohistochemically examined using anti-MMP-9 antibody. MMP-9 immunoreactivity was evaluated by semi-quantitative H score in epithelial and stromal cells.

Results: The MMP-9 immunoreactivity was detected with variable intensity in all lesions but one RC. Statistically significant differences were observed in all odontogenic tumors and cysts between parenchymal and stromal cells. The staining for MMP-9 protein in epithelial and stromal cells of KOT cases was significantly stronger than in RC ($p < 0.001$, $p < 0.033$, respectively).

Conclusion: High level of MMP-9 expression suggests its role in bone matrix digestion in ameloblastomas, KOT and RC. Moreover, KOT expresses higher MMP-9 than RC which may contribute to its more aggressive behavior. The utilization of proper MMP-9 immunoreactivity may be useful to embark on the most suitable treatment protocol.