**PS-15-026**

**Poland syndrome and Osteoblastoma: a case report**

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**Objective:** Poland syndrome is rare, with an incidence of 1 in 7,000–100,000 live births, and is characterized by unilateral chest wall defects due to hypoplasia or abscence of pectoralis muscles, costal cartilages or ribs and brachy-syndactyly. Breast carcinoma and Leukaemia are rare associations. Osteoblastoma is a rare, solitary, benign bone-forming tumour with a prevalence of 1 % of all bone tumours. Common sites are vertebral column (34 %), long bones (30 %) and ribs (<5 %).
**Results:** An otherwise healthy male, aged 18, presented with a painful, sudden-onset swelling on the anterior chest wall. Chest wall asymmetry, hypoplastic right pectoralis major muscle, right brachydactyly and a well-demarcated, bony swelling of the right rib were noted. Poland syndrome was confirmed. Excision of the tumour showed a typical osteoblastoma.
**Conclusion:** Poland syndrome was defined in 1962 by Patrick Clarkson, a plastic surgeon working at Guy's Hospital, London, and named in honour of Alfred Poland who first documented the features. The aetiology is unknown and only a few familial cases have been reported. Interruption of the embryonic blood supply to the arteries is presumed to be the cause. No association between Poland syndrome and osteoblastoma has been reported previously.

**PS-15-027**

**Up regulation of E2F1 is a determinant of dismal outcome in non Hodgkin's Lymphoma of Egyptian patients without relationship to SV40**

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**Objective:** Lymphoma represents a major health problem throughout the world. SV40 induces malignant transformation by the large T-antigen (L-TAG), promotes transformation by binding and inactivating p53 and pRb. L-TAG can bind pRb promoting the activation of the E2F1 transcription factor, thus inducing the expression of genes required for the entry to the S phase and leading to cell transformation. The present study was conducted to assess the role of SV40 L-TAG and E2F1 in NHL of Egyptian patients.
**Method:** This retrospective study was conducted on NHL of Egyptian patients for evaluation of immunohistochemical (IHC) expression of SV40 and E2F1.
**Results:** This retrospective study was conducted on 105 tissue specimens including 20 follicular hyperplasia and 85 NHL cases. SV40 L-TAG was identified in 3/85 (4 %) of NHL. Numerous mitoses and apoptotic count were associated with high E2F1 expression ($P<0.001$). No significant association was reached between E2F1 and SV40. E2F1 expression proved to be most and first independent prognostic factor on overall survival of NHL patients (HR=5.79, 95 % CI=2.3–14.6 and $P<0.001$).
**Conclusion:** Upregulation of E2F1 has been implicated in oncogenesis, prognosis and prediction of therapeutic response but is not seemingly to have a relationship with the accused SV40.

**PS-15-028**

**Desmoplastic fibroma of the rib: a case report**

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**Objective:** Background: Desmoplastic fibroma (DF) is a rare tumor microscopically composed of well-differentiated myofibroblasts with abundant dense collagen deposition. It is considered a benign lesion, although locally destructive with a reported incidence of 0.1–0.3 % among primary bone tumors. DF is most common in the long tubular bones, mandible and pelvis. Rib involvement by desmoplastic fibroma is extremely rare.
**Method:** Case report: a 56-year-old man presented with a 10-year history of swelling of the left chest wall. Radiographs revealed a tumor involving the left 8th and 9th ribs, and the computed tomography showed a tumor of 16×14×9 cm in size. Total excision with surgical margins was performed, and the chest wall was reconstructed.
**Results:** The gross appearance of the surgical specimen showed a circumscribed and yellowish mass involving the majority of the bones and the adjacent soft tissues. The microscopy revealed a proliferation of bland spindle-shaped cells in a dense collagenous background with low mitotic activity and no necrosis. The definitive diagnosis of DF was based on the pathological and radiological findings. The patient remains asymptomatic with no evidences of local recurrence 12 months after surgery.
**Conclusion:** Desmoplastic fibroma is a rare primary tumor of bone and wide resection is the ideal treatment.

**PS-15-029**

**Autopsy investigation of complications after radiofrequency ablation for atrial fibrillation**

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**Objective:** Esophageal fistula formation is one of the most feared complications of radiofrequency catheter ablation. This procedure and its many variations such as the "maze" are becoming the mainstream treatment for atrial fibrillation (AF) due to limitations of antiarrhythmic drugs. The incidence rate has been reported to be 0.01 to 1 %. This complication has high mortality rate and there are very few reported autopsy cases.
**Method:** We report four autopsy cases with history of radiofrequency catheter ablation for atrial fibrillation.
**Results:** The initial presenting symptoms include neurologic symptoms, chest pains, epigastric discomfort, and sepsis. Transesophageal echo of three cases showed no evidence of thrombus or vegetation; however two had CT evidence of atrial esophageal fistula. The autopsy findings included three atrial esophageal fistulas and one esophagopericardial fistula. Atrial esophageal fistulas were small and detected only by using the en masse Letulle technique and would be easily missed by the Virchow method. The immediate causes of the deaths were myocardial ischemia, hypovolemic shock secondary to exsanguination, and stroke.
**Conclusion:** This is the largest collection of autopsy cases to date to illustrate the clinical and pathologic features of this deadly complication. The Letulle method is preferable to use in patients with known history of atrial ablation.

**PS-15-030**

**Pathomorphological aspects of thermal trauma**

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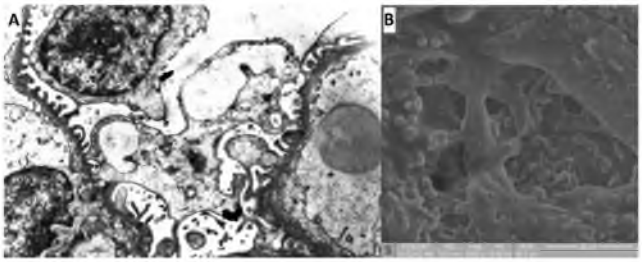
**Objective:** The majority of people face with unfavorable influence of thermal factors of environment. The thermal trauma can be a cause of injury and death of subjects.
**Method:** One hundred twenty rats were subjected to influence of temperature 28, 38, 48°C in duration of 5 min in thermal camera. Brain, liver, kidneys, heart, skeletal muscles were studied with help of light, raster and scanning electron microscopy with elemental analysis.
**Results:** The overheating at 38°C leaded to formation of quick adaptation to heat, directed to preservation of transport and protidosynthetic functions, as well as to development of disadaptative processes. The hypovolemic shock was developing at overheating at 48 °C. Hepato-renal or

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**
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**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:** Immunohistocemically 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 scatterd 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**
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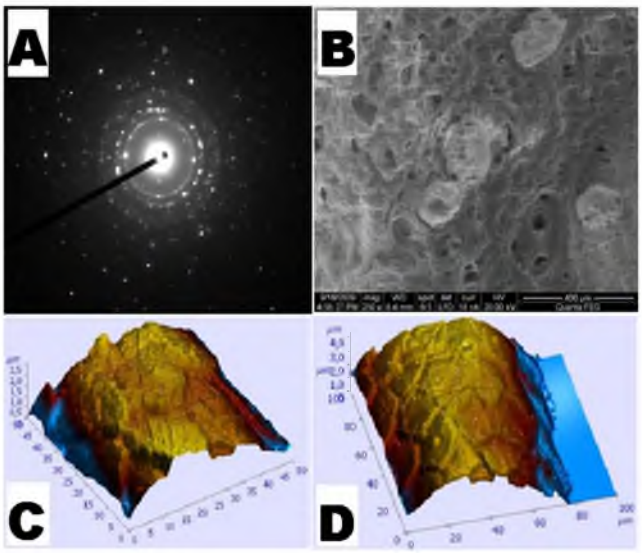
**Objective:** The modern opportunities of medical care are basing on usage of new methods of diagnostic and treatment, including nanotechnologies and nanoobjects in clinical medicine and pharmacology.
**Method:** The experiment was carried out on 58 rats. The nanoparticles of iron oxide were used intranasally 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 leaded 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**
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**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.