



II MEETING NAZIONALE

Gruppo Italiano di Paleopatologia

L'AQUILA, AUDITORIUM DEL PARCO

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with ventilation slots. These subjects underwent numerous anthropological and paleopathological investigations including biopsy of lung tissue.

A total of 24 individuals were subjected to biopsy of the alleged lung tissue through pre existing solutions of continuity of the rib cage. From each individual was obtained a tissue sample that was in turn divided into two fragments of different size. The fragments of greater size were rehydrated acc. to Sandison 1955, routinely processed as a standard surgical biopsy from a living patient, avoiding formalin, fixation. All these samples have been embedded in paraffin, cut at the rotary microtome in 5 mm-thick histological sections, routinely stained with hematoxylin and eosin.

The fragment of smaller size were also rehydrated then fixed absolute alcohol for 7 days, and included in vacuum-impregnated epoxydic resin acc. to Fulcheri 2001. All these samples have been cut with rotary microtome using tungsten blades to get 2 mm-thick histological sections stained with hematoxylin and eosin, Pearls, Masson trichrome, PAS and Von Kossa.

In 12 cases it was biopsied the right hemithorax, in 6 cases the left hemithorax, in 4 cases the paracervical tissue, in one case the abdomen and in one case the paratracheal tissue.

In a total of 18 cases (75%) it was possible to recognize lung tissue.

In the remaining 6 cases: 2 cases it was not possible to recognize the original tissue, in two cases only fibrous tissue not compatible with lung tissue was observed and in the remaining two cases the sample was heavily contaminated by post vital larvae or spores.

Among the subjects in which it was possible to recognize lung tissue in about 1/3 of the study population (7 cases; 29.16%) was observed massive deposition of a black, non-reflective, intratissutal and acellular pigment, often nodular shaped, constantly surrounded by dense fibrous tissue more evident with the Masson Trichrome staining. The morphological findings appeared diagnostics for a pneumoconiosis secondary to a massive pulmonary anthracosis. In one of these subjects we also observed the deposition of a pigment intensely positive for Pearls staining indicative of previous bleeding events and consistent with a particularly serious form of pneumoconiosis antracotica. All these findings are consistent with the parish registers and the geography of the site, located at about 1100 meters above sea level and even today, surrounded by lush hardwood forests, confirming that it represented an important location for the production charcoal until the first half of the XX century.

The observation of deposition anthracotic pigment in the lungs (the so-called anthracotic tattoo) is a common autopsy finding of our days and already paleopathologically described at in populations exposed to the fumes of braziers or outbreaks. Only if massive and accompanied by fibrosis or repeated bleeding is possible to consider pneumoconiosis, which is a known professional pathology of coal workers. This series is one of the first and most conspicuous paleopathological documentation of an occupational lung disease.

The tombs of the Marquises of Saluzzo in the church of San Giovanni

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The town of Saluzzo, Piedmont, in the northwest of Italy, was an important and independent marquisate from 1175 to 1548, when the France annexed its territories because the last margrave Gabriele died without sons. In the medieval heart of the city there is the church of San Giovanni, designated to hold the burials of the noble families and six marquises (Federico I, Federico II, Tommaso III, Ludovico I, Ludovico II and Gabriele), but the building underwent several extensions and restorations during the centuries so at present is impossible to identify the place of the medieval graves.

We performed GPR (Ground Penetrating Radar) scansion on the entire surface of the church that revealed many structural anomalies and the certain presence of some sepultures and chamber tombs on the whole area. Then we concentrated our study on the apse where is placed the well preserved monumental cenotaph of Ludovico II (1438-1504), a masterpiece of 'flamboyant gothic', built in 1508. We lifted up the marble hatch on the ground in front of the monument and inspected the crypt, closed for at least seventy years and never photographed nor analyzed. The room was unexpectedly big (10x7 meters for 3 meters high) and accurately built. We found however a significantly altered context especially in modern times, with five lithic sarcophagi of the noble 'Del Carretto' family (XIX century-early XX century); in the opposite corner we noticed instead a trunk that contained scattered bones and, at least, seven skulls. We hypothesize that this ossuary was the result of a cleaning made in the crypt in modern times in order to hold new graves.

At present it is not possible to identify and date those buried, but future detailed investigations (e.g. carbon 14 and isotopes) will certainly provide more information and, perhaps, identify the marquises of the Middle Ages.

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The mummy of Ferdinando Orsini, 5th Duke of Gravina (†1549): a paleopathological study

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In the monumental Sacristy of the Abbey of Saint Domenico Maggiore, Naples, 37 wooden sarcophagi contain the well preserved bodies of ten Aragonese kings, princes and other Neapolitan nobles who died between the 15th and 16th centu-

ries. One of the arks revealed the natural mummy of Ferdinando Orsini, 5th Duke of Gravina, identified by an epigraph with his name and date of death (1549), in good condition, with the exception of the face, completely skeletonized. The skull suffers from an extensive destructive lesion that afflicted the medial wall of the orbit right, the root of the nose and, partly, the ethmoid without osteitic reaction. The histological examination performed on the bone showed wide lacunae with, inside, epithelial-like cells, partially necrotic, positive for the immunohistochemical stain for PanCK. The border between the bone and the surrounding neoplasia were clear; the brownish fleshy appearance mass had darker margins (like a palisade) and was separated from the bone by clefting artifacts.

In our opinion, the pathology that affected Orsini 500 years ago was the basal cell carcinoma in an advanced stage, in fact it is the most frequent form of skin cancer and occurs predominantly on the sun-exposed skin of adults. Microscopically the tumour tends to infiltrate the subcutaneous tissue with a peripheral palisade surrounded by loose of stroma and cleft-like retraction spaces of artifactual nature. It grows in a slow and indolent fashion, but can ulcerate and may invade skull, nares, orbit or temporal bone with wide osteolytic lesion, enough to deserve the Latin name of 'ulcus rodens', i.e. erosive ulcer. Immunohistochemically, the cells are positive for keratin and distant metastases are very rare.

This case is very important because it represents one of the only four cases of malignant soft tissue tumor diagnosed in paleopathology.

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From L'Aquila to Europe. Bodies and burials of the Franciscan Observance leading figures, 600 years after its introduction in Abruzzo region (1415)

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Due to a progressive decline of the Franciscan Order, a movement called Regular Observance took place in XIV century. An increasing number of monks left the friaries to live in poverty and hermitage. In a couple of centuries, they became the leading part of the Order. In 1415, some friars moved to L'Aquila to build the small convent of S. Giuliano, from which the Observance spread throughout Abruzzo region, as far as Italy and Europe.

The greatest exponent of the Observance, **Saint Bernardino da Siena** (1380-1444), visited L'Aquila twice, in order to promote reconciliation of the opposing parties. Here he died and his body was embalmed to be displayed inside a new basilica. The artificial mummy underwent at least 4 recognitions, but no detail is available about his diseases and the embalming technique adopted. **Saint Giovanni da Capestrano** (1386-1456) defended Bernardino from the charge of heresy, built

the San Salvatore Hospital (1445-1457) and guided a Crusade against the Ottomans in eastern Europe. He died during the following epidemic. His remains are traditionally known to be destroyed by the Turks in 1526, but some Author supposed they may be still preserved and ascribed to an orthodox Saint. **Saint Giacomo della Marca** (1393-1476) also had oratorical skills and received inquisitional and diplomatic commissions in Eastern Europe from the Pope. He organized the Mount of Piety to lend money to the poor without interests. He died in Naples and his body was embalmed by the procedures used for Aragonese kings. Since 2001 his artificial mummy is preserved in Montepandone (Marche region) and the fifth recognition held in 2008 evidenced well-developed muscular insertions, confirming the historical reports on his strong walking activity.

In the outskirts of L'Aquila are also preserved the human remains of the Blessed **Bernardino da Fossa** (1421-1503, skeletal remains), **Vincenzo da L'Aquila** (1435-1504, natural mummy) and **Timoteo da Monticchio** (1444-1504, skeletal remains). The mummy of the Blessed **Antonia da Firenze** (1401-1472) is an interesting example of female mummy and its recognition is scheduled in the near future. A systematic search for additional minor figures in Abruzzo region and a survey of their remains is in progress.

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Paleopathological study of *Mammuthus meridionalis* of Madonna della Strada (L'Aquila)

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A skeleton of a male, 50-55 years old *Mammuthus meridionalis*, dated to the Pleistocene and conserved at the Spanish Fort in L'Aquila (Italy), showed a broken left tusk, in association with the presence of a deep (15x20 cm) bone erosion, involving the dental alveolus and the premaxillary bone, in close proximity to the maxillary sinus and the nasal cavity.

During gross examination, small samples from three representative areas of the eroded bone were obtained. Thin sections were made and the specimens were examined under plane and polarized light, using a high resolution microscope with an incorporated digital camera.

Microscopical study revealed the intra vitam origin of the lesions, characterized by the presence of woven bone fibers, typical of the early phases of bone remodeling, and lamellar bone with dilated and remodeled Haversian systems.

The gross and histological findings were consistent with an osteomyelitis with bone sequestration, caused by a localized blunt trauma or, more likely, resulting from an ascending,