

Birth or Death: The Vulnerability of Childbirth in Oxyrhynchus¹

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Abstract: *The city of Oxyrhynchus, an important Greco-Roman metropolis, has been excavated since 1992 by the Oxyrhynchus Archaeological Mission. Archaeological work is concentrated on the Upper Necropolis, which has been occupied for more than 1000 years, from the Saite period (650 BC) to the Arab conquest (AD 646). Most of the Roman tombs are concentrated in Sector 22, where Tomb 64 is highlighted as one of the mummies found in its excavation presents an unusual case of death during childbirth. The study of this funerary package will allow us to learn about Roman funerary practices and the physical and magical protection of the most vulnerable.*

Resumen: *La ciudad de Oxirrínco, importante metrópolis de época grecorromana, está siendo excavada desde 1992 por la Misión Arqueológica de Oxirrínco. Los trabajos se concentran en la Necrópolis Alta, que presenta una ocupación de más de 1000 años, desde la época saíta (650 a.C.) hasta la llegada de los árabes (646 d.C.). La mayoría de las tumbas romanas se concentran en el sector 22, donde destacamos la tumba 64. Una de las momias halladas en su excavación presenta un caso inusual, al tratarse de fallecimiento durante el parto. El estudio de este paquete funerario nos permite conocer las prácticas funerarias romanas y la protección física y mágica de los más vulnerables.*

Rezumat: *Oraşul Oxyrhynchus, o importantă metropolă greco-romană, a fost excavat începând din 1992 de către Misiunea Arheologică Oxyrhynchus. Lucrările arheologice sunt concentrate pe Necropola Superioară, care a fost ocupată timp de mai bine de 1000 de ani, din perioada saitică (650 î.Hr.) până la sosirea arabilor (646 d.Hr.). Majoritatea mormintelor romane sunt concentrate în Sectorul 22, unde evidenţiem Mormântul 64. Una dintre mumii, găsită în timpul excavării, prezintă un caz neobişnuit de deces în timpul naşterii. Studiul acestui pachet funerar ne va permite să înţelegem practicile funerare romane şi protecţia fizică şi magică a celor mai vulnerabili.*

Keywords: Oxyrhynchus, mummy, papyrus, cartonnage, gender fragility, morbidity, birth, magic texts.

The site of Oxyrhynchus⁶ is located 190 km south of Cairo, on the left bank of the Bahr Yussef, next to the modern village of El-Bahnasa. During the XXVI dynasty, the locality was

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⁶ CASTELLANO 2017, 197-231.

known from geographical lists as Per-Medjed and became the capital of the XIX nome of Upper Egypt. In addition to the significance conferred by this title, its geostrategic position was noteworthy, serving as the endpoint/point of arrival for products from routes originating in the western oases (especially Bahariya) and benefiting from a fluvial port on the Bahr Yussef. It was precisely at this time that Per-Medyed became a prominent commercial hub/enclave, evidenced by the presence of huge tombs of officials. The Saite tombs found in Oxyrhynchus exhibit a typological variety with a common element: large, vaulted limestone constructions, either individual or familial, featuring enormous anthropomorphic sarcophagi and an assemblage of canopic jars, ushabtis, and various types of amulets. Tomb 14 of the Upper Necropolis is a clear example of a family sepulchre, with eleven chambers and some inscriptions on its walls.

The necropolis remained in use during the Persian period, as evidenced by the discovery of various structures exhibiting a peculiar construction typology. Usually, under some blocks on the surface, there was a cutting in the pavement, and at a depth of about 4 meters, tombs were constructed. A few centimetres in front of the entrance, a kind of parapet built with vertical blocks of white limestone was used as a protective measure against tomb robbers. The ceiling was either flat or with a lintelled vault, and within, only a mummified individual was deposited, accompanied by a funerary net of beads and a cartonnage as the sole funerary grave goods⁷.

With the arrival of Alexander the Great in Egypt, the city changed its name to Oxyrhynchus, named after the fish that swallowed the phallus of the god Osiris according to Egyptian mythology⁸. Soon after, Greeks settled in Oxyrhynchus, transforming it into one of the most notable metropolises in all of Egypt during the Greco-Roman period. With the adoption of Christianity as the official religion, the city adopted the name Pemdje, partially reverting to its pharaonic designation. This toponymic conversion did not diminish its importance; by the late third century, it became the capital of Arcadia, and by the fifth century, it was an episcopal seat. The Arab invasion did not lead to the abandonment of Pemdje; on the contrary, the city remained inhabited well into the medieval period. However, problems with the canal system supplying the locality led to its gradual abandonment and relocation. Oxyrhynchus remained buried until the late nineteenth century when English papyrologists Bernard Grenfell and Arthur Hunt initiated archaeological excavations, which were subsequently continued by Flinders Petrie and Evaristo Breccia, among others. However, it was not until 1992 that the Archaeological Mission of Oxyrhynchus was established, initially directed by Dr. Josep Padró and, since 2019, by Doctors Maite Mascort and Esther Pons⁹.

⁷ PONS, MASCORT 2022, 249–67.

⁸ ERROUX-MORFIN 2011.

⁹ CASTELLANO, AGUSTÍ, forthcoming.

Currently, the Archaeological Mission of Oxyrhynchus focuses its excavation efforts on a single sector: the Upper Necropolis (Figure 1), located to the North-West of the ancient city on the edge of the desert. The cemetery remained in use since Saite period to the Arab conquest, with funerary structures progressively overlaying one another. Among the excavation sectors of the necropolis, we want to highlight sector 22, located north of the Upper Necropolis¹⁰. This sector houses a significant portion of the Roman stone tombs excavated by the Supreme Council of Antiquities in the 20th century, such as Tomb 12, as well as two Byzantine Funerary Houses studied by the Archaeological Mission of Oxyrhynchus.

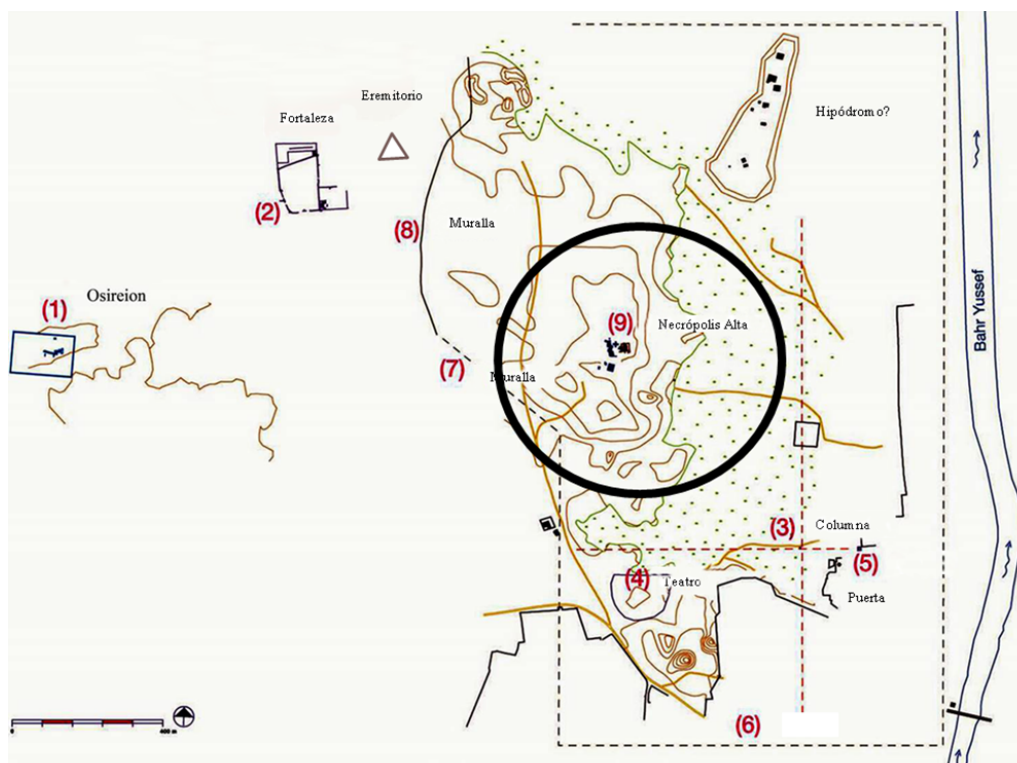


Figure 1. Topographic plan of the Oxyrhynchus site, showing the location of the Upper Necropolis (Image: Antonio López - Archaeological Mission of Oxyrhynchus).

Despite the changes brought about by Romanisation, Egyptian culture maintained a strong presence, especially concerning religious and funerary practices¹¹. One of the most important traditions that persisted was the protection and transfiguration of the deceased, as it has been

¹⁰ We would like to express our gratitude for the collaboration of Dr. Leah Mascia in the epigraphy work, Mrs. Francesca Pullia as an anthropologist, Mr. Ibrahim Hassan in excavation tasks, and to the restoration team composed of Mr. Bernat Burgaya and Mrs. Delia Eguiluz.

¹¹ FRANKFURTER 1998, 7.

verified that the preferred treatment of the corpse during this period continued to be mummification, with the embalming of the body¹². However, the latter was Romanised in some aspects. This adaptation of the funerary ritual to Roman culture is identified in aspects such as the emphasis on the body itself and its external appearance, as well as the gradual replacement of anthropomorphic stone sarcophagi with coffins, linen shrouds, masks, and decorated plaster casings that directly enveloped the body. Tomb 64 of the Upper Necropolis of Oxyrhynchus is a clear example of Roman funerary rituals.

The Tomb 64 of the Upper Necropolis

The purpose of the archaeological work during the 2023 expedition was to reach the interior level of Tomb 12 to excavate it under optimal safety conditions. This funerary construction, accessed from the southern end via a three-step staircase, was discovered during excavations by the Supreme Council of Antiquities in the 1980s and was first documented by the Archaeological Mission of Oxyrhynchus in 1993¹³. It is a building of irregular structure, constrained by the limited space available next to the previously constructed Roman Tomb 11¹⁴. Subsequent excavations were carried out during the expeditions of 2009¹⁵, 2015¹⁶, and 2020¹⁷, focusing on the cleaning of chamber 5b, which was in poor condition. The northern part of the stone vault had collapsed, causing the sediment mound (*debris*) to slide into the chamber, covering it almost entirely. At that point, we already observed that the northern profile contained, in its lower levels, various funerary packages with a geometrical system of bandages, typical of the Roman period, oriented along the north-south axis. This orientation made excavation or extraction impossible, as they were buried by the *debris* mound (Figure 2).

During the 2022 expedition, we undertook the excavation of the upper strata formed by the decomposition of Byzantine mudbrick structures, which mostly corresponded to Christian collective crypts. Beneath this layer, rich in ceramic materials, lay another sandy layer with the presence of flint pebbles, just above a thick layer of aeolian sand. This sediment marked the beginning of the excavation of the interior of chamber 5b of Tomb 12, which had been postponed in 2020. Cleaning the chamber led to the discovery of eight mummified funerary packages, with bandages decorated with a diamond design typical of the Roman period¹⁸.

¹² The large number of mummies recovered during the Roman period is due to the fact that this method of body preservation became more affordable, and practically all layers of the population could afford mummification.

¹³ PADRÓ 2006, 37-39.

¹⁴ Both roman tombs share common features such as the use of white limestone ashlars joined with lime mortar, an emulation of the Saite funerary constructions (albeit with smaller dimensions), and the use of barrel vaults to cover the chambers.

¹⁵ PADRÓ *et alii* 2009, 3-26.

¹⁶ PADRÓ *et alii* 2015, 3-16.

¹⁷ MASCORT *et alii* 2020, 5-6.

¹⁸ With the complete excavation of the tomb and subsequent review of the tomb plan, we concluded that it actually consisted of two distinct Roman tombs: Tomb 12 (comprising three chambers) and the new tomb 63, formed by chambers A and B (previously numbered as 5b).

At the same time the team of Egyptologists was completing the excavation of the chamber, some workers were clearing the upper strata of a perpendicular chamber to this tomb, of which some white blocks belonging to the north and south walls, slightly vaulted, could be perceived. As archaeological work progressed in this new chamber, we found that the west wall had been destroyed in ancient times, connecting it with the chamber of Tomb 63. At this point of contact, we located four mummified funerary packages that, due to the placement of the bodies, were not in primary deposition¹⁹.



Figure 2. Aerial photograph of Tomb 63, with chamber 63B, previously referred to as 5b (Photograph: José Javier Martínez - Archaeological Mission of Oxyrhynchus).

¹⁹ We must take into account that during the Byzantine period, Funerary House number one was built over this area (see SUBÍAS 2008), which reused the Roman tombs as funerary crypts. During the 4th century, there was a renovation of the underground structure to accommodate Christian burials, leading to a series of reforms with adobe walls and destruction of walls of the Roman tombs, as is the case with this new tomb we are presenting.

Although the two chambers were connected, studying the junctions of their walls allowed us to assert that it was a new Roman tomb, which we designated Tomb 64. This new funerary structure consists of a single rectangular chamber, oriented on the east-west axis, with the entrance possibly on the eastern side. The length of the tomb is 6.19 meters, and the maximum width is about 2.90 meters. The preserved height of the northern and southern walls up to the start of the vault is 3.10 meters, and the western wall, which borders Tomb 63, has hardly been preserved. The walls were constructed with stretcher bond masonry, using ashlar of lower-quality white limestone, measuring between 35-40 cm in length and 23-27 cm in width. The bodies were deposited in the chamber directly on a sandy, heavily deteriorated floor, forming up to four layers of mummified individuals. This is a characteristic of Greco-Roman funerary practices, which involved the display of mummies in homes or places where a final tribute could be paid and, after a certain period, their burial in collective tombs²⁰ (Figure 3).



Figure 3. Image of Tombs 63 and 64 after their excavation (Photograph: Núria Castellano - Archaeological Mission of Oxyrhynchus).

Following the excavation of Tomb 64, 36 male and female mummies representing all age groups were recovered. Although their study is in an initial phase, on-site observation allowed us to identify several noteworthy features regarding funerary practices:

- The presence of many infant individuals (one-quarter of the sample).
- The use of narrow bandages for mummification, with a considerable thickness of bandage layers in everyone, often with individually wrapped limbs before rejoining.

²⁰ ZESCH *et alii* 2020, 3.

- The external presentation of the mummy is meticulously done, as the bandages exhibit a rhomboid or squared-patterned wrapping. Occasionally, a small button²¹, made of plaster and coated with a thin layer of gold leaf was placed at the centre of this figure.

- Unequal treatment regarding excerebration, as not all individuals had their brain mass removed.

- It is worth noting that during the Roman period, or perhaps already in the Ptolemaic period, it was customary to apply gold leaf directly onto the skin of mummies, especially in the facial area²². This gilding of the skin is present in some of the mummies studied in this tomb, such as number 22549. This practice may have been linked to the ancient Egyptian tradition of the deification of the deceased²³.

- Inside the mouth of two mummies, a tongue-shaped amulet made of gold was found, consisting of a thin sheet about 2 cm long and pointed in shape, with a single central vein (22547) or several veins simulating a leaf (22566)²⁴. The presence of these amulets²⁵ could be a reminiscence of the Opening of the Mouth ceremony (where the deceased was empowered to use their senses again) or could refer to the deification of the deceased and, as such, to their incorruptibility (divinities had golden bodies)²⁶.

- Three of the individuals retained decorated cartonnages²⁷, an external body protection system that became popular during the Ptolemaic period and practically replaced coffins in the Roman period. In some of the mummies with cartonnage from the Roman tombs of Oxyrhynchus, what Castiglione terms "dualité du style"²⁸ can be observed, namely, the combination of two artistic traditions in a single work, the Egyptian and the Greek. On one hand, the Egyptian tradition, with its iconography and traditional elements linked to religion, and on the other hand, the Greek tradition, which represented the contemporary world and the elites of the time.

Precisely, this article presents a mummy with cartonnage of classical tradition that is a clear case of female vulnerability during childbirth.

In the eastern area of Tomb 64, a female individual (22551) was located, oriented along the north-south axis, with her head to the south. Her state of preservation was very poor because

²¹ DUNAND, LICHTENBERG 1998, 103.

²² DUNAND 1982.

²³ The gold leaves were placed on the skin in a manner that established a more direct comparison with divine associations between gold and the flesh of the gods. The use of gilding on the bodies corresponds to the iconographic theme of rebirth and divinity used in external funerary preparations (ANDERSON 2021, 29).

²⁴ To these items is added the bronze tongue found on the individual located in the interconnection between Tomb 63 and Tomb 64.

²⁵ PONS 2019, 332.

²⁶ Be that as it may, this practice has also been documented in Marina el-Alamein, Quesna, and other locations, showcasing the syncretism between Egyptian and Roman culture.

²⁷ DUNAND, LICHTENBERG 1998, 111.

²⁸ CASTIGLIONE 1961, 209 – 211.

she was found under a heavy layer of various funerary packages, on which the remains of the destruction of the tomb's vault were also documented. However, it could be observed that the preparation of her body had been very elaborate, as the funerary package was enclosed in a white plaster casing resembling cartonnage, finished in polychrome relief representing a tunic with sleeves. This is a "mummy case" or cover that envelops the entire body, made of several layers of plaster. The layer directly above the bandage is very thick, and subsequently, another thinner layer was applied, which was moulded when the plaster was still fresh²⁹. As mentioned earlier, during the Roman period, much more importance was given to the preservation and ornamentation of the body itself, and for this reason, the deceased person in the case presented here was bandaged in linen cloth decorated with a diamond design, covered by a decorated plaster layer. This finish served not only an aesthetic purpose but also functioned to protect the body and assist it in its process of rebirth (Figure 4).



Figure 4. Individual 22551 with the cartonnage depicting the tunic folded at the bottom (Photograph: Núria Castellano - Archaeological Mission of Oxyrhynchus).

Regarding the relief decoration on the cartonnage, the part covering the face could not be recovered, and the body in general was in a poor state of preservation. Nevertheless, it was observed that it was a cartonnage imitating the clothing "of the living"³⁰, a long tunic with pronounced drapery, especially in the lower area, without revealing whether one of the shoulders could be exposed. Despite the deterioration of the outer layer, remnants of pink or purple pigment (colours associated with the goddess Venus and fertility) could still be seen, with details in black and wearing black sandals with a single strap, between the first and second toe³¹.

²⁹ AGUSTÍ *et alii* 2023,4.

³⁰ RIGGS 2005, 248.

³¹ We have a parallel for this type of cartonnage in PONS, CODINA 2014, 1221-1222.

When the cartonnage was removed, it was noted the meticulousness with which the body had been wrapped, resting on a wooden board³², a characteristic feature of Romano-Egyptian mummies. According to Corcoran and Svoboda³³, this would be the wooden board used during the mummification process to facilitate the transportation of the body to the tomb. In relation to the wrapping of the body, a large quantity of linen bandages were used, arranged in a geometric pattern with an outer grid in a rhomboidal or diamond shape³⁴, which exhibited great aesthetic beauty and seemed to refer to a protective network for the body³⁵, a singularity of the Roman period. A good indication of this is that almost all of the funerary packages recovered in Tombs 63 and 64 exhibited this type of geometric arrangement of the bandages (Figure 5).



Figure 5. Detail of the rhomboid-patterned wrapping of individual 22551 (Photograph: Núria Castellano - Archaeological Mission of Oxyrhynchus).

Since the state of preservation of the body made it impossible to transport it to the anthropology laboratory for study, it was decided to proceed with the excavation of the

³² It was not a unique case, as in Tomb 64 we observed that two of the mummies also had a wooden board to consolidate the preservation of the body.

³³ CORCORAN, SVOBODA 2011, 64.

³⁴ In Tombs 35 and 36 of Oxyrhynchus, funerary packages with this type of wrapping were also recovered, as depicted in PONS, PERRAUD 2021, page 223.

³⁵ RIGGS 2010, 2.

mummy in the tomb, unwrapping the funerary package. Inside, various elements were found that have been confirmed to be part of the funerary equipment of the tombs of Oxyrhynchus during the Roman period. In the pectoral and pelvic areas of the deceased, packets of papyrus were recovered, each associated with two clay seals, which acted as closures for the documents.

These elements, which for the moment have only been recorded at the Oxyrhynchus site, are in the pectoral, abdominal, and pelvic areas and can be found in infant, adult, or the elderly, in both men and women. Some individuals had only one seal, while others could have up to two, accompanied by papyrus sheets with ritual texts in Greek containing typical magical words (*voces magicae*)³⁶, which are currently under study as most of them were found folded. Since this is not the first time they have appeared in the papyri recovered during archaeological work at the site, certain information can be inferred following the initial conclusions of the study carried out by Dr. Leah Mascia³⁷. Some characters are visible in a primary visual analysis and indicate that they are likely magical texts, probably for funerary protection³⁸, with symbols and drawings that appear exclusively in this type of ritual composition. Furthermore, these are papyrus sheets that appear folded and "closed" with the decorated clay seal. Although in the Roman period there are known mummies with elements like seals on the outside of the bandages, in this case, they appear in contact with the body. The interpretation given to this fact is that these seals were placed by the embalming priests³⁹, along with the magical papyri, as part of the rituals used for the rebirth of the deceased person. In the case at hand, there were two brown clay seals with impressions in low relief, made when the clay was still fresh, one of them in the pectoral area and the other in the abdominal area (Figure 6). The decorative motifs correspond to hieroglyphic characters, one of which appears to be an offering table (a motif that would be part of the iconographic repertoire of the Egyptian funerary world) and the other a hare⁴⁰.

³⁶ MASCIA 2023, 1140.

³⁷ We would like to thank Dr. Leah Mascia for the information provided in personal communication..

³⁸ MASCORT *et alii* 2021, 23; MASCORT *et alii* 2022, 20; MASCIA 2022, 390-393; MASCIA 2024, 60.

³⁹ A first approach to textual typology can be found in MASCIA 2024, 60.

⁴⁰ AGUSTÍ *et alii* 2023, 6.

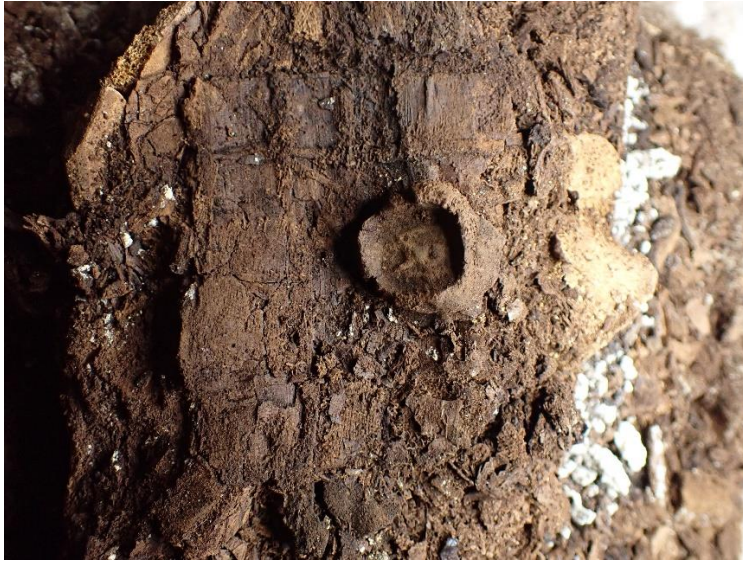


Figure 6. Detail of the papyrus packet with the seal depicting a hare, found on the chest of 22551 (Photograph: Bernat Burgaya - Archaeological Mission of Oxyrhynchus).

Anthropological study of 22551

The mummy subject to the present study is a funerary package that was initially considered individual but, due to the circumstances that will be described shortly, contained the remains of two individuals (Figure 7). Initially, the remains of a teenage girl aged between 15 and 16 years (22551) were documented, whose body had been mummified.



Figure 7. Image of the moment of the archaeological intervention where the foetal skeletal remains were documented in situ in the field. (Photograph: Bibiana Agustí - Archaeological Mission of Oxyrhynchus).

The anthropological examination detected the effects of the use of resins and balms during the embalming process, which led to the destruction of some parts of the skeleton due to the mineralization of bone tissues, although overall it could be recovered in good condition. Regarding other organic remains, the preservation of dark, long, and wavy hair, dermal residues, and part of the brain tissues stand out. This evidence, along with the absence of ethmoidal perforation, allowed the interpretation that during the mummification process, the extraction of the brain was not performed; neither were their inferences of abdominal evisceration. As in other periods, the different levels of quality, whether in embalming, body wrapping, or decoration, depending on the cost, method, and materials used, or the skills of the embalmers themselves, conditioned a more or less satisfactory result. However, the large number of skeletal remains found in Egyptian cemeteries of this period indicates that many were buried with minimal or even non-existent evisceration and dissection. The climate and

terrain of Egypt keep the bodies well-preserved, and consequently, evisceration or excerebration are not essential⁴¹.

During the mummification process, the body had been placed in a dorsal decubitus position, with the arms extended and the hands in palmar contact with the thighs. In the abdominal area, occupied by the expanded uterus as interpreted from the following observation, the remains of the skeleton of a full-term foetus were preserved, whose head occupied the lower part of the pelvic cavity. This fact indicated that both individuals died because of labour, which was not completed. The foetal skeletal remains could be recovered in good condition, as can be seen in Figure 8, although with a loose connection of all its elements, after carrying out the skeletonisation process in the uterine space⁴². It was in a right lateral decubitus position in an axial direction opposite to that of the mother, with the elements of the craniofacial block dispersed in the space corresponding to the ischiopubic coxal branches delimiting the birth canal, the elements of the left forearm, hand, and ischium in contact with the right iliac wing, the vertebral and costal elements dispersed over the anterior surface of the sacrum, the lower extremities in lateral flexion in the uterine space, close to the last ribs on the right side, and the elements of the feet on the lower thoracic vertebral bodies (see Figure 9).

The mother's skeleton (Figure 10) showed signs of maturation typical of a 15 to 16-year-old adolescent, both in terms of dental eruption degree and skeletal maturation state⁴³. Based on the length of the long bones, her height was estimated to be around 153.2 cm. Despite poor bone preservation, especially of the pelvic bones, the anthropological study allowed us to interpret her as a female individual, with slender bones, narrow jaw, and soft muscular insertions in almost all postcranial elements, except for the muscle insertion points of the trapezius and deltoid in the clavicle and the soleus muscle in the tibia. These characteristics reflect a physical activity in which only weight-bearing on the shoulders and walking would have stood out. She exhibited an epigenetic feature consisting of an olecranon perforation of the distal epiphysis of the humerus, a datum that will gain value when contrasted with the rest of the population sample, to consider the possibility of kinship relations. She also showed secondary joint facets in the distal epiphysis of the tibia, a common marker in populations that have the habit of resting with the body squatting on the heels.

⁴¹ RIGGS 2010, 345.

⁴² DUDAY 2004.

⁴³ SCHEUER, BLACK 2000.

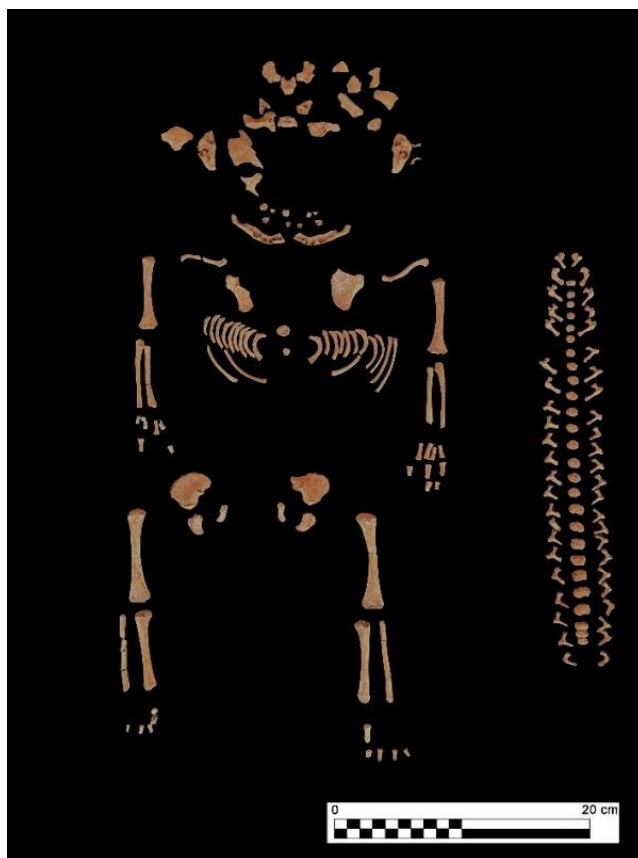


Figure 8. Fetal skeletal remains recovered from individual 22551-2. (Photograph: Irene Riudavets - Archaeological Mission of Oxyrhynchus).

The analysis of the dentition, in very good general condition, concluded that during her lifetime, she had experienced two mild cases of caries in the crowns of the lower first molars. Both the orbital roofs of the frontal bone and the necks of the femurs preserved evidence of a cribrous and vascularized process (*cribra orbitalia* and *cribra femoralis*), which must be understood as reflecting a deficit in blood components, probably due to iron-deficiency anaemia.

The perinatal subadult skeleton (22551-2) preserved deciduous dental germs within the alveolar cavities, with a degree of maturation consistent with that of a full-term fetus: the crowns of the incisors and molars were unfinished, and those of the canines were in an early formation stage. The metaphyseal and cranial bone elements also match this age diagnosis, in addition to their biometric results⁴⁴, which yield a size typical of a perinatal individual (see Table 1).

⁴⁴ BALTHAZARD, DERVIEUX 1921; FAZEKAS, KOSA 1978.



Figure 9. View of mummy 22551. The bone elements corresponding to fetal individual 22551-2 are represented in green, and in white dashed lines, an idealisation of their position can be seen. (Photograph: Núria Castellano - Archaeological Mission of Oxyrhynchus. Assembly: Dr. Bibiana Agustí and Irene Riudavets).



Figure 10. Skeletal remains recovered from individual 22551 corresponding to the mother.
(Photograph: Irene Riudavets - Archaeological Mission of Oxyrhynchus).

metaphyseal skeletal element	length mm	height cm	age in gestational days	gestational age in weeks
humerus	65	50,25	281,4	40,2
femur	73,5	49,16	275,296	39,33
tibia	69	52,85	295,96	42,28

Table 1: Correspondence between metaphyseal length and estimated age and body size, based on the formulas of Balthazard and Dervieux 1921.

In assessing the age stage of subadults, two ranges are commonly distinguished that divide adolescence as a stage in a person's life: early adolescence, which includes the range from 10 to 14 years old, and late adolescence, which includes the age from 15 to 19. Some authors even

subdivide these stages into three, based on physical and evolutionary changes, thus understanding early adolescence as the range from 10 to 13 years old, middle adolescence from 14 to 16, and finally late adolescence from 17 to 19⁴⁵. According to this classification, the woman in the present article would fall into the stage of middle adolescence, thus presenting certain risks associated with childbirth in cases of early procreation.

As observed, during the archaeological intervention of the case study, a full-term fetus was documented with its skull lodged in the mother's pelvic cavity. The age diagnosis and this circumstance rule out the interpretation of a premature birth and, instead, may indicate a possible complication derived from cephalopelvic disproportion between the perinatal and the mother. The mother's skeleton showed clear signs of incomplete biological development associated with her age, among which the maturation status of her pelvis should be considered. It is also likely that her reproductive system was not yet sufficiently developed for maternity, thus her birth canal may have presented a particular narrowness. This is recorded as the main factor in the occurrence of certain complications during childbirth such as tears, traumas in the vaginal tract, and a higher likelihood of haemorrhages and infections⁴⁶.

Another factor to consider when formulating a hypothesis explaining the possible causes of death during childbirth in the documented full-term pregnancy in this case, lies in the evidence of metabolic markers (*cribra orbitalia* and *cribra femoralis*) associated with deficits in blood components and probable iron-deficiency anaemia during the mother's life. In this sense, it is worth mentioning that maternal malnutrition during pregnancy is also one of the causes of morbidity in the case of adolescents, which can lead to complications during childbirth⁴⁷.

Conclusions

It is quite common to document in the archaeological record of the Upper Necropolis of Oxyrhynchus the presence of infant individuals at all subadult stages. It must not be forgotten that the risk of dying before reaching adulthood was very high, and that between 40 and 60% of the population did not reach the age of five⁴⁸. This data exemplifies the high infant mortality observed generally in preindustrial societies, such as during the Roman period in Egypt⁴⁹, where medical and obstetric knowledge, although advanced for the time, could not prevent the death of a high number of women. However, it is very rare to find the remains of a fetus or perinatal preserved inside the uterine cavity of the mother.

According to some demographic calculations, life expectancy at birth was around 25 years for men and 22.5 years for women during the Roman period. The difference in criteria especially reflects the risks that occur before, during, and after childbirth. Mortality derived

⁴⁵ OLIVEROS *et alii* 2017.

⁴⁶ MIRAMA *et alii* 2020.

⁴⁷ MIRAMA *et alii* 2020.

⁴⁸ ANDERSON 2021, 33; ZAKRZEWSKI 2015, 5.

⁴⁹ ROBINS 1994, 27.

from processes related to pregnancy, especially during childbirth, remains a serious problem today, especially in countries with limited economic resources⁵⁰.

The case presented here involves an adolescent who, judging by the quality of the funerary package, most likely belonged to the upper class of the city. This fact implies that she would probably have had access to experienced midwives or even specialised obstetricians⁵¹, who nevertheless could not prevent the death of the mother and the child. Numerous letters narrate the tragic outcome of childbirth, such as the one Thaubas sent to her father informing him that her sister Herennia had suffered a miscarriage during the eighth month of pregnancy and finally died after four days (*P Fouad 75*)⁵².

Probably linked to the danger threatening the future mother and the newborn, a series of strategies were developed to (attempt to) ensure a successful childbirth. From the crafting of furniture and figurines of deities like Taweret, Bes, or Hathor, protectors of childbirth and the most vulnerable individuals in the early stages of growth, to magical texts⁵³. The spells used for this purpose do not seem to have been recited during childbirth, as they do not explicitly refer to this moment⁵⁴, although their purpose was to facilitate a quick and safe delivery, protecting the newborn and the mother, as complications after childbirth were very common and often resulted in the mother's death.

The individuals included in burial package 22551 belong to two of the groups that presented the highest vulnerability: pregnant women and newborns. This vulnerability, which led to the death of the mother and her child, could extend to the afterlife. For this reason, all possible precautions were taken when preparing their burial. On the one hand, a meticulous preparation of the corpse to preserve it, thanks to the mummification of the body and the various wrappings that protected it, such as bandages and cartonnage. And on the other hand, the magical protection provided by the papyri along with the seals that closed and certified their contents. As Mascia points out⁵⁵, the magical texts found inside various mummies in the Upper Necropolis of Oxyrhynchus must be classified under the category of funeral inscriptions for protection, but it does not seem that in this case, it is specific protection for the moment of earthly birth, but rather a composition intended for rebirth after death. The study of the papyri found in these tombs will provide a better understanding of the evolution of funeral rituals during the Roman period in Oxyrhynchus and, by extension, throughout Egypt.

⁵⁰ According to data from the World Health Organization (WHO), in the year 2020 alone, there were 287,000 deaths directly related to childbirth and postpartum processes (<https://www.who.int/news-room/factsheets/detail/maternal-mortality>).

⁵¹ GARCÍA TRÓCOLI 2016, 19.

⁵² GOÑI 2018, 71.

⁵³ ROBINS 1994, 26.

⁵⁴ TÖPFER 2014, 318.

⁵⁵ MASCIA 2022, 390-393; MASCIA 2024, 60.

References

- Agustí, B., Burgaya, B., Eguiluz, D., Mascia, L., Munar, M., Pullia, M. F., 2023. Meeting Potamon and his travelling companion on the long journey to the Underworld An interdisciplinary study of two Roman mummies of Tomb 42 at Oxyrhynchus. *Journal of Egypt Heritage Association*, 2.
- Anderson, B., 2021. *A Part of the Family: Funerary Preparations for Children and Adolescents in Late Ptolemaic and Roman Egypt*, Ph. D. University of Memphis.
- Balthazar, V., Dervieux, H., 1921. Etudes anthropologiques sur le foetus humain. *Annales de Médecine Legale*, 1: 37-42.
- Castellano, N., 2017. *Aigyptos/Aegyptus: Egipto en época grecorromana*. Sabadell: D-Storia.
- Castellano, N., Agustí, B., forthcoming. Archaeo-anthropological Study of Tomb 45 in Oxyrhynchus. In: *XIII International Congress of Egyptologists*. *Egyptologische Uitgaven* Leiden: Peeters Publishers.
- Castiglione, L., 1961. *Dualité du style dans l'art sépulcral égyptien à l'époque romaine*. Budapest: Akad.
- Corcoran, L., Svoboda, M., 2011. *Herakleides: A Portrait Mummy from Roman Egypt*. Los Angeles: J. Paul Getty Museum.
- Duday, H., 2004. *The Archaeology of the Dead. Lectures in Archaeoethanatology*. Oxford and Oakville: Oxbow Books.
- Dunand, F., 1982. Les têtes dorées de la nécropole de Douch. *Bulletin de la Société Française d'Égyptologie*, 93: 26 – 46.
- Dunand, F., Lichtenberg, R., 1998. *Les momies et la mort en Égypte*. Paris: Ed. Errance.
- Erroux-Morfin, M., 2011. Oxyrhynchus: une cité, un nome, une divinité-poisson. *Égypte, Afrique & Orient*, 61: 57-60.
- Fazekas, I.G., Kósa, F., 1978. *Forensic Fetal Osteology*. Budapest: Akadémiai Kiado.
- Frankfurter, D., 1998. *Religion in Roman Egypt: Assimilation and Resistance*, Princeton: Princeton University Press.
- García, I., 2016. *Concepción, embarazo y parto en el antiguo Egipto*. El Ejido: Círculo Rojo.
- Goñi, A., 2018. *Género y sociedad en el Egipto Romano. Una mirada desde las cartas de mujeres*. Oviedo: Universidad de Oviedo-Trabe.
- Mascia, L., 2022. *The Transition from Traditional Cults to the Affirmation of Christian Beliefs in the City of Oxyrhynchus*, PhD. Universität Hamburg.
- Mascia, L., 2023. Practices of Ritual Power in the Necropolis of Oxyrhynchus. A New Assessment. In: O. el-Aguizy, B. Kasparian (eds.) *ICE XII: Proceedings of the Twelfth International Congress of Egyptologists*. Cairo: Institut Français d'Archéologie Orientale. Vol. 2, 1137–1143.

Mascia, L., 2024. A Journey Through the Multilingual Landscape of Greco-Roman and Late Antique Oxyrhynchus. In: S. Sövegjártó, M. Vér (eds.) *Exploring Multilingualism and Multiscriptism in Written Artefacts*. Berlin, Boston: De Gruyter, 41-74.

Mascort, M., Pons, E., Agustí, B., Algorry, E., Amer, H., Amer, I., Castellano, N., Erroux-Morfin, M., López, A., Martínez, J.J., Mascia, L., Munar, M., Recasens, A., 2020. Memòria dels treballs desenvolupats per la Missió Arqueològica de la Universitat de Barcelona-IPOA, en el jaciment d'Oxirrinc (Minia), Egipte. Campanya de 2020. *NILUS*, Butlletí de la Societat Catalana de Egiptologia, 29: 3-35.

Mascort, M., Pons, E., Agustí, B., Algorry, E., Amer, H., Amer, I., Burgaya, B., Castellano, N., Eguiluz, D., Erroux-Morfin, M., López, A., Martínez, J.J., Mascia, L., Munar, M., Pullia, M.F., Recasens, A., Riudavets, I., Soler, S. 2021. Memòria dels treballs desenvolupats per la Missió Arqueològica de la Universitat de Barcelona-IPOA, en el jaciment d'Oxirrinc (Minia), Egipte. Campanya de 2021. *NILUS*, Butlletí de la Societat Catalana de Egiptologia, 30: 22-24.

Mascort, M., Pons, E., Agustí, B., Algorry, E., Amer, H., Amer, I., Burgaya, B., Castellano, N., Eguiluz, D., López, A., Martínez, J.J., Mascia, L., Munar, M., Pullia, M.F., Recasens, A., Riudavets, I., Soler, S. 2022. Memòria dels treballs desenvolupats per la Missió Arqueològica de la Universitat de Barcelona-IPOA, en el jaciment d'Oxirrinc (Minia), Egipte. Campanya de 2022. *NILUS*, Butlletí de la Societat Catalana de Egiptologia, 31: 19-21.

Mirama, L.V., Calle, D.G., Villafuerte, P.F., Ganchozo, D.F., 2020. El embarazo y sus complicaciones en la madre adolescente. *Recimundo*, 4/3: 174-183.

Oliveros, Y.C., Díaz, Y.O., Peña, Y., Oliveros, Y. de la C. 2017. Algunas consideraciones sobre el embarazo en la adolescencia. *Revista Información Científica*, 96/3: 516-526.

Padró, J., 2006. *Oxyrhynchos I. Fouilles archéologiques à El-Bahnasa (1982-2005)*. Nova Studia Aegyptiaca III. Barcelona: Universitat de Barcelona.

Padró, J., Algorry, E., Amer, H., Campillo, J., Castellano, N., Codina, D., Erroux-Morfin, M., Mangado, L., Martínez, J.J., Mascort, M., Pons, E., Subías, E., 2009. Memòria provisional dels treballs realitzats en el jaciment d'Oxirrinc (El-Bahnasa, Província de Minia, Egipte) durant la campanya de 2009. *NILUS*, Butlletí de la Societat Catalana d'Egiptologia, 18: 3-26.

Padró, J., Agustí, B., Algorry, E., Amer, H., Burgaya, B., Castellano, N., Erroux-Morfin, M., Gonzalez, G., López, A., López, F.J., Martínez, J.J., Mascort, M., Perraud, A., Pons, E., Riudavets, I., van Neer, W., 2015. Memòria provisional de les excavacions i restauracions de la campanya de 2015 a El-Bahnasa, Oxirrinc (Mínia, Egipte). *NILUS*, Butlletí de la Societat Catalana d'Egiptologia, 24: 3-16.

Pons, E., 2019. Presencia de "Lenguas de oro" en momias de época romana en el Yacimiento Arqueológico de Oxirrinc (El-Bahnasa), Egipto. In: J. Gil, A. Mederos (coords.) *Orientalística en tiempos difíciles: actas del VII Congreso Nacional del Centro de Estudios del Próximo Oriente*. Madrid: Pórtico, 331-334.

Pons, E., Codina, D., 2014. Cartonajes de yeso policromado de época romana del sector 2D del yacimiento arqueológico de Oxirrinco (El-Bahnasa, Egipto. Tumba 31 y ámbito 32 (campañas 2010 y 2012). In: J. M. Álvarez, T. Nogales, I. Rodà (eds.) *Actas XVIII Congreso Internacional de Arqueología Clásica (13-17 de Mayo de 2013, Mérida Badajoz), Centro y periferia en el Mundo Clásico*. Mérida: Museo Nacional de Arte Romano. Vol. I, 1219-1222.

Pons, E., Perraud, A. 2021. Mummies from the Roman Period in tomb No 19 in the archaeological site of Oxyrhynchus (El-Bahnasa, Minya), Egypt. *Canarias Arqueológico: Arqueología-Bioantropología*, 22 (Ejemplar dedicado a: Symposium in memoriam Arthur C. Aufderheide the scientist, the friend (1922-2013)), 219-234.

Pons, E., Mascort, M., 2022. Conjunto de tumbas de Época Persa del yacimiento de Oxirrinco (El-Bahnasa), Egipto. Campañas 2019-2020. *Boletín del Museo Arqueológico Nacional*, 41: 251-267.

Riggs, Ch., 2005. *The Beautiful Burial in Roman Egypt*. Oxford: Oxford University Press.

Riggs, Ch., 2010. Funerary Rituals (Ptolemaic and Roman Periods). In: J. Dieleman, W. Wendrich (eds.) *UCLA Encyclopedia of Egyptology*. <https://escholarship.org/uc/item/1n10x347>.

Robins, G. 1994. Women and Children in Peril: Pregnancy, Birth and Infant Mortality in Ancient Egypt. *KMT*, 5/4: 24-35.

Scheuer, L., Black, S., 2000. *Developmental juvenile osteology*. Londres: Academic Press.

Subías, E., 2008. *La maison funéraire de la nécropole haute à Oxyrhynchos (el Minyâ, Égypte): du tombeau à la diaconie, Oxyrhynchos II*. Nova Studia Aegyptiaca V. Tarragona: Institut Català d'Arqueologia Clàssica.

Töpfer, S., 2014. The Physical Activity of Parturition in Ancient Egypt: Textual and Epigraphical Sources. *Dynamis*, 34/2: 317-35.

Zakrzewski, S., 2015. Life Expectancy. En E. Froom, W. Wendrich (eds.) *UCLA Encyclopedia of Egyptology*. <https://escholarship.org/uc/item/7zb2f62c>.

Zesch, S., Gander, M., Loth, M.A., Panzer, S., Sutherland, M.L., Allam, A.H., Badr, I., Thomas, G.S., Wetzig, S., Zink, A.R., Rosendahl, W. 2020. Decorated bodies for eternal life: A multidisciplinary study of late Roman Period stucco-shrouded portrait mummies from Saqqara (Egypt). *PLoS ONE*, 15/11 <https://doi.org/10.1371/journal.pone.0240900>.



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