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Sequential development of embryoblast memory entities in human cancer tissues, architectural metamorphosis from spiral cleavage to micro – macroscopic structures

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ABSTRACT

Every cancer cell can partially or completely return to an embryonic genotype-phenotype: We were able to capture the evolutionary cycle of the activation of an individual cellular memory, which allowed a group of squamous tumor cells with mutations caused by the Human Papilloma Virus to return collectively to an embryoid-like state, in unique images. Somatic cells have the plasticity to transform their morphology into an embryonic phenotype when they enter a state of cellular emergency.

Our findings document how malignant tissues reactivated ancestral storage memory and elaborate, high-fidelity crystalline fractal chiral structures (Tc) repaired copies from damaged substrate tissue. Harnessing this resultant perfect embryoblast **memory** template probably guides and controls the regenerative pathway mechanism in human tissues as follows: a) Modify and reprogram the phenotype of the tumor where these entities are generated. b) Establish a reverse primordial microscopic mold to use the collective behavior of cellular building blocks to regenerate injured tissues. c) Convert cancer cells to a normal phenotype by developmental patterning of active patterning cues. d) Convert cancer cells to a normal phenotype by regeneration using the organizational level and scale properties of reverse genetic guidance. e) Globally control mitotic

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activity and morphogenetic movements, preventing its spread and metastasis, determining a better prognosis for patients who incubate these entities in their tumors compared to those who do not express them. f) Under physical-chemical cellular stress it is possible to artificially replicate these entities from the epithelium of minor salivary glands in humans.

Introduction

The morphological patterns of malignancy have traditionally been exclusively based on the change in size and shape of cells or nuclei, abnormal mitosis and pleomorphic nuclei, hyperchromatic coarse clumped chromatin, a change in the nucleus/cytoplasm ratio, loss of polarity and disordered growth. We propose that this approach to cancer is incomplete.

In 1908, a pathologist at the University of Manchester, Charles Powell White, noticed that there was something more than hyperchromatism and pleomorphism in the tumor tissues. White [1] observed the presence of crystals in malignant tumors based upon the premise that alcohols dilute the crystals.

The author relates these crystals in some way to the proliferative activity of the tumor, identifying them both in sarcomatous lesions and carcinomas. The crystals are made up of cholestyramine, and fatty acids seem to be associated with cell proliferation rather than with cell degeneration. In 1963, George Rose from the Biology Department of the University of Texas identified unusually large extracellular crystals and particles produced by embryonic chick cells in special tissue culture environments, including helical, tubular, ribbon-like, triangular, hexagonal, rhomboidal and filamentous forms [2]. The origin of these forms was detailed biochemically, but their usefulness in the culture environments in which they were found remained obscure.

In 2007, in a preliminary study, we described and documented the self-assembly of geometric triangular chiral hexagon crystal complexes (GTCHCs) in human pathologic tissues at macroscopic and microscopic levels, particularly in cancer tissues [3,4]. The genesis of these complexes occurs through intercellular cancer collisions that lead to the degradation of membrane ejected actin filaments in the form of rotation–domain interactions – that is, pairs of filaments with left- and right-hand sub-patterns of spin spirals [5]. Recent observations confirm the previous findings on GTCHCs identified in cancer tissues 10 years ago: interfacial geometry dictates cancer cell tumorigenicity [6],

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and matrix geometry determines the optimal cancer cell migration strategy and modulates responses to interventions. Whereas tumor cells exploit geometry for metastasis [7], the geometry helps confined cells to acquire a stem cell phenotype [8]. Today we know that this geometry of spirals and triangular patterns that we call triplet crystals (Tc) represents the crystalloid mold on which the spatial order that gives rise to what we call embryoblast shape memory in malignant tumors is built.

Tumorigenesis resembles the self-organizing process of early embryo development. With the recent profound advances in the field of developmental biology, it has become apparent that the early development of embryos shares many similarities with cancer development in terms of both biological behaviors and similarities in the cell invasive epigenetic regulation of gene expression and protein profiling. Thus, it is evident that tumorigenesis mimics a self-organizing process of early embryo development [9–15]. The aim of this research is to demonstrate the intimate connection that cancer has with embryogenesis.

Material and methods

We collected and re-examined all of our materials, in which we identified recurrent patterns of triangular and spiral chiral crystals (Tc) as geometric attractors, in cancer tissues. In the past 5 years, corresponding to more than 1077 microscopic/macroscopic specimens, including carcinomas, adenocarcinomas and sarcomas.

It is important to mention that the images documented in this work belong to living patients, with a natural history of cancer, who have not previously undergone chemotherapy or radiotherapy. The size of the giant masses documented show that they developed in approximately 9 years, with silent clinical growth. When these large masses were resected, none of these patients had developed metastases and it was for this specific reason that they were given the option of surgery as their condition allowed it.

Neuron-specific enolase – immunostaining

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This isoenzyme, a homodimer, is found in mature neurons and cells of neuronal origin. Detection of NSE with antibodies can be used to identify neuronal cells and cells with neuroendocrine differentiation

Sixty formalin-fixed and paraffin-embedded tissue sections with the most representative hot spot of Tc identified in malignant tumors were analyzed using neuron-specific enolase . We performed immunohistochemistry using the standard protocol method with paraffin sections. The scoring was done as follows: Ni (no immunostaining); low (10% or less immunopositivity); or high (>10% immunoreactive cells).

Statistics analysis

The index of **Tc** geometric complex assembly in cancer tissues was determined, as well as neuron-specific enolase antibody immunostaining positivity index in correlation with Tc expression areas. Chi-squares for proportions were estimated using EPI-INFO software (v 6.04; Center for Disease Control and Prevention, Atlanta, GA, USA).

This study was approved by the ethics subcommittee of the University Cooperative of Colombia, Villavicencio, Colombia, and followed the guidelines of the Ministry of Health (No. 8430 of 1993) and the principles established by the Declaration of Helsinki. All patients signed an informed consent form for the use of their biological materials for diagnostic and research purposes.

RESULTS

From 1077 malignant tumors, **Tc** geometric complexes were identified in 1050 cases. These findings show identification of highly ordered geometric structures in more than 97.5% of the analyzed malignant tumor tissues ($P = 0.00001$; Table 1). Benign tumors and inflammatory entities do not evidence these structures.

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Table 1

Identification of Tc in cancer tissues

Tumours		
Tc +	**Tc–**	**Final**
1050	**27**	**1077**
97.5%	2.5%	100%

Photomicrography evidence

We were able to capture a unique and perhaps unrepeatable image: the evolutionary cycle of structures with embryoid phenotype generated from squamous epithelial cells injured by Human Papilloma Virus in a cervical cytology sample with cancer in situ. The cycle consists of 12 stages that show step by step how these structures are gestated.

As can be seen in the images, these entities are gestated from fractal crystalloid memory modules that have an **embryoid phenotype,** where determinant repetitive patterns organize sequences of alignment and spatial order, a memory that is activated when the cell suffers irreversible damage from specific mutations, as in this case through the action of the Human Papilloma Virus (Fig 1).

We identified three memory modules in the **metamorphosis** of these entities:

a) **Crystalloid memory module**: Stages 1 to 6 (Fig 1).

We can observe the intelligent sequence of a chain of events. Crystalloid entities measuring 4 to 9 um appear separate, aligned and functionally interconnected. In stage 1 we can observe a polar entity made up of 2 molecular crystals of triangular and spiral shapes that appear in a chiral position. We had previously described this event as GTCHC complexes [3] With this evidence, we can now state that these complexes initiate the process and originate from molecular liquids generated by the secretion of glandular tumor epithelia. These liquids inside the tumor glands generate movements for and against the clock, creating real molecular whirlwinds from which the spirals and triangles are formed, and when they solidify, they represent the crystalloid seed of this process, which is in essence an **eminently physical phenomenon**. We wish to draw attention to the images documented below that show how malignant tumor glands adopt an emerging **embryoblast** function. Remember that the blastocyst is an embryonic structure that forms during the early stages

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of development in which the morula develops as a fluid-filled cavity, transforming itself into a blastocyst or embryoblast.

In stages 2 to 5 we can see fractal copies of these crystalloid entities that have spontaneously replicated.

In stage 6, the entities gather all the information in a single structure and perforations can be seen on its surface. This entity full of holes on its surface and which we call Triplet Crystal (Tc) is constituted by a triplet of spirals and triangles perfectly and beautifully assembled spatially, which behaves as a mold-vector of biological information.

b) Cellular memory module

In stages 7 to 10 we can see the **biological phase**, which can be identified as the Tc pattern of stage 6. It behaves as a vector of biological information and transfers information to the nearby injured squamous cells, generating a change in these cells' normal polygonal cellular phenotype, sequentially acquiring the same pattern of the triangular phenotype of the **Tc.**

In stages 11 and 12 we can see the complete transfer of information from **Tc** to squamous cells, generating an exact copy of the Tc phenotype.

We can see how the transformed squamous cells progressively become more hyperchromatic as they reach stage 12, where an embryoid-like entity is clearly shown, completing the metamorphosis experienced by the squamous cells, **probably regulated by the reactivation of morphogenesis and proteins that come from normal embryogenesis.**

This evolutionary cycle shows other surprising details that speak for themselves: In the transition phase between stage 10 and 11, four pairs of triangular molecular satellite crystals can be seen near the squamous cells that are transforming their phenotype. These are once again perfectly visible in a chiral position (highlighted in a purple circle).

If we join the individual crystalloid memory modules with the spatially separated cellular memory modules, from stages 1 to 12, we obtain the spatial image of a perfect collective memory that has the phenotype of each of the individual memory entities. It can be observed how ""Every cellular collective" is identical to each of its individual cellular parts and each individual cellular memory has the phenotype of a collective memory encoded.

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With the unique patterns identified in this evolutionary cycle, we generated a prototype algorithm that allowed us to perfectly trace these entities in other tumor scenarios, and this is how we were able to identify them in carcinomas, adenocarcinomas and sarcomas. We had the opportunity to document these patterns in other scenarios under similar conditions.

Figure 2 refers to stage 6 of the evolutionary cycle and shows in detail the triplet of modularly integrated components that form the **Tc** entity. We can observe how this entity emerges from the secretory activity of the tumor gland in the lumen of an endometrial adenocarcinoma simulating a **blastocyst-embryoblast.** (panels e1-e2).

The architectural union of 3 spirals and 3 triangles organized spatially in absolute perfection forms what we call Triplet Crystal (Tc). We can observe how **the tumor epithelial cells around them, indicated with a red circle, have acquired the Tc phenotype (Figure 2 panel m). This unique feature has not been previously documented in tumor biology. These images clearly express, as never before, how the geometrical entity that orders Tc can somehow physically regulate the micro-macro cellular environment where these entities are gestated and self-assembled.**

The Tc images show how this entity is an interface structure.

In panel h A shows the cellular biological phase of the entity, given by its round phenotype, while B shows crystals and a geometric triangular-spiral pattern constituting the physical phase of the entity. At present, there is no evidence of a structure produced naturally where this structural conjunction between physics and biology can be so clearly observed, which makes this structure a mold to be copied and used in bioengineering as an entity that generates order and unique biological organization.

Figure 3 a, b is the macroscopic image where we identified Tc described above, showing a macroscopic view of a well-differentiated endometrial adenocarcinoma. In this specimen we identified the microscopic mold of Tc. When we compare the microscopic pattern Tc with the macroscopic pattern of the tumor the phenotype is identical, and refers to stages 7,8, 9 of the "evolutionary cycle". Panel c, d clearly shows **Tc** transferring information to the cells around them, which have taken on the crystal's phenotype. The image was captured in a malignant lung tumor. Panel e, f shows the Tc on the right. On the left we can see how the squamous cells have reliably acquired the phenotype of the Tc. the material was captured in a tumor cytology of the uterine cervix.

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Figure 4 shows stages 8 and 9 where we can observe the transfer of information from Tc to a group of tumor cells in several scenarios.

Figure 5 shows the final stage where we can observe embryoid-like shape memory entities, which measure from 4 to 12 um but are perfect and have the particularity of always appearing in primary tumors but not in metastatic lesions.

Panel g shows an embryoblast shape memory with a cephalic area, a defined optic area, a petrous area with clear bone differentiation and a recognizable vascular tubular differentiation. The image was captured from the liquid of a cystic transformation zone of retroperitoneal malignant tumor, additionally these embryoblast entities present neuronal differentiation as demonstrated by the clear positivity for Enolase (95.0%) (Figure 5 panel h, i) (table 2). Remember that the nervous system derives from the embryonic ectoderm.

Table 2

Analysis of neuron-specific enolase immunopositivity for Tc expression

Neuron-specific enolase		
Tc +	**Tc -**	**Final**
57	**3**	**60**
95.0%	5.0%	100%

c) **Growth memory module**

This corresponds to the macroscopic phase of the evolution of these entities that we have documented. To do this, we will rely on 7 specific cases with macroscopic and microscopic histological documentation of these cases in this phase of growth.

Case 1

Figure 6 panel a

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A 50-year-old patient with a brain tumor in the fronto-parietal region. Macroscopically, a large tumor lesion of 9 cm in diameter, structure with polar differentiation, can be observed; the histopathological diagnosis consisted of a glioblastoma multiforme. In panel b we identified the microscopic crystalloid memory mold responsible for the macroscopic collective cellular memory of the tumor. We can see that they are identical.

Case 2

Figure 6 panel c

45-year-old patient with a gastric tumor with a spiral and triangulation component, macroscopic expression of Tc.

Panel d crystalloid microscopic individual memory mold responsible for the formation of the macroscopic collective memory mold we see in the tumor**. We can observe an embryoid structure within a gastric tumor gland resembling a blastocyst-embryoblast.**

Case 3

Figure 6 panel e, f

56-year-old male patient with a gastric tumor diagnosed as a well-differentiated gastric adenocarcinoma. The surgical specimen shows an unusual pattern with clear cephalo-caudal differentiation with the presence of a defined optic cup. The e panel shows the microscopic crystalloid memory of this tumor**. Panel f shows an embryoidal structure within a tumor gland resembling a blastocyst-embryoblast.**

Case 4

Figure 7 a,b

80-year-old patient with a breast tumor. We can see a giant tumor lesion. In panel b the microscopic study of this lesion showed a lesion with a bilaminar component identical to the one observed macroscopically. We can clearly see an embryoid structure that is assembled from the cells detached from the epithelium of the breast tumor gland, resembling a blastocyst-embryoblast. The microscopic seed grew in time, generating identical fractal copies that originate the pattern of the macroscopic tumor.

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Case 5

Figure 7 c, d

50-year-old patient with a uterine leimiosarcoma, a surgical specimen weighing 3500 grams of cerebroid appearance, measuring 20 x 18 x 19 cm. A nest-like lesion was identified in the central region where 2 triangular structures can be seen in a chiral position in a mirror image with a spiral component inside them. Panel c shows 2 structures with cerebrospinal characteristics, one structure on the left of embryoid pattern with a feminine appearance due to the curvilinear morphology and on the right side another structure with less curvilinear morphology with a masculine appearance. , in the microscopic findings we identify the microscopic seed of this macroscopic twin structure (panel d)

Case 6

Figure 7 e, f

A 35-year-old male patient with a tumor lesion in the small intestine. Panel e shows the surgical specimen with a highly unusual morphology, where there is a structure with a polar cephalic pattern as well as a caudal pattern. Panel f shows the microscopic pattern that generates the macroscopic pattern.

Case 7

Figure 8 a, b, c, d, e, f

A 35-year-old male patient with a retroperitoneal tumor lesion measuring 25 cm in length and weighing 2800 grams. Panels a, b, and c show the perfect tracing that we were able to carry out in this case. Panel a shows how the individual microscopic memory has its genesis inside a tumor gland from a molecular liquid that solidifies and crystallizes. Panels b and c irrefutably illustrate stages 1 to 7 where the spontaneous configuration of embryoid-like entities is shown, **clear biomimicry of the human blastocyst**. Millions of copies of this microscopic crystalloid memory generated an entity with clear fetal characteristics in a period of 8 to 9 years. Panels d and e show the result of this replication in time, a macroscopic fetal structure in profile and from the front. Panel f shows a cross section of the characteristics of the tumor that was diagnosed as a component of a carcinomatosis with origin in the sigmoid colon.

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Figure 9 a, b, c, d

Initial experiments in our laboratory show that we can artificially reproduce the assembly of these embryoblast-like entities by inducing slight controlled physical-chemical stress on the epithelium of minor salivary glands in healthy young individuals, as shown in the images.

DISCUSSION

The sequential images documented in this work are not individually isolated stem cells, but rather we document here, in a unique and unprecedented way, collectivities or cellular memory entities that are activated in states of emergency within glandular tumor epithelia adopting an **emerging embryoblast** functionality.

the secretions of the tumor glands solidify forming crystals of spiral triangular geometry that spin in the opposite direction, representing the crystalloid structural seed of these entities, which measure just a few microns but acquire polarity, organize, fuse and generate a triplet of triangular images and spirals forming a conglomerate that we have called triplet crystal (Tc).

In articles such as Magnetization of the three-spin triangular Ising model, theoretical physicists have already used mathematical formulas to address the organizing power of these geometric conglomerates, that take shape and become real in practice in these self-organizing entities that we have documented here for the first time. **Tc** is a new, unique structure that nature builds at the interface of physics and biology where **Geometric spin systems hold promise for finding new phases of biological self-assembly**. [16 17]

The theory of physics of a magnetization model forming a perfect conglomerate of a three-spin, three-triangle triplet is shown in the figures of the paper. In detail, a slender crystal-like Tc is able to behave as a vector of biological information and transmit its phenotype to squamous cells that change their phenotype in response to this transmitted information. As we can clearly see in the "evolutionary cycle" these cells slowly and progressively change their phenotype, turning into a final product; embryoblast memory entities. This visible transfer of information from Tc to the tumor

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cells reminds us of the hypothesis of Professor Cairns-Smith, A. G when he states that crystals can behave as genes mainly in relation to cancer. (18)

What are these entities and what do they represent? **We can see how the traces of the initial phase of development of blastocyst-embryoblast embryogenesis are indelibly engraved and stored forever in the individual and collective memory of all the normal cells of the human body** which we believe represent the genetic basis of tissue regeneration and repair, as mainly observed in the glandular epithelium, a memory that is activated in a state of cellular emergency, disorganization or cellular senescence. Perfect microscopic replicas of morphological information that possess the information of a collective memory encoded in its nucleus and anchored to the period of embryogenesis. **Every cell that is irreversibly injured and escapes programmed cell death or apoptosis has the plasticity of metamorphosis and the ability to return to an embryonic stage. This translates into a transcendental biological fact: Every cancer cell returns partially or totally to an embryonic genotype-phenotype, and here we have represented the only and main cause for which the tumor cells escape the attention of the immune system; it does not recognize them as foreign, because they emerge from the primitive embryo and from the indelible and inerasable collective memory that it has left in all the cells of the organism.**

This article is the consolidation of over 10 years of work [19. 20]. A recent publication by researchers from the neuroscience department of the University of California support our findings in human tissues in an animal model, as they found that adult neuronal cells exposed to cell damage return to a state of ... [21]. These findings are of unquestionable crucial significance for our research: These authors identify the transcriptional traces of embryonic growth, our group documents the **entity** that generated these traces, which determines that the methodology we used and the data we collected are reliable to the point that they can be reproduced and predicted in other laboratories around the world.

The hypothesis linking cancer and cell damage to embryogenesis is not new, Cohnheim suggested in 1882 [22] that tumor cells were essentially "embryonic" in nature, being remnants of embryonic epithelial cells. In the early 1970s, Brinster [23] demonstrated that by injecting embryonic carcinoma cells into a mouse blastocyst, the mouse was able to regulate the cancer cells and their progeny to the point that they no longer behaved malignantly; rather, they participated in normal embryonic development that resulted in functional mice. This experiment was confirmed by Mintz and Illmensee [24] and Papaioannou [25]. Pierce [26,27], showed that this effect, specific for some types

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of tumor cells, is strongly position-dependent: the carcinoma cells placed between the pellucid zone and the trophytoderm (the perivitelline space) were not controlled, while the carcinoma cells injected into the blastocele lost their tumorigenicity immediately after differentiation. Clinical trials, conducted with zebrafish embryo extracts administered to patients with advanced cancer that did not respond to conventional treatments, significantly reduced the expression of oncofetal antigens (such as AFP) [28] and induced marked beneficial effects (induction of objective responses, improvement in state performance and significant increase in overall survival) [29-31] .

Additionally, our morphological findings fit perfectly with the new hypothesis by molecular biologist Jose A from the University of Maryland who states that DNA is only "the list of ingredients" and not the set of instructions used to build and maintain a living organism. These instructions are very complex and are stored inside each individual cell as a shape memory that "decides" how and to what extent to use the ingredients available in the DNA. "DNA cannot be seen as the 'blueprint' for life" [32 33].

According to Dr. Jose the fundamental aspects of anatomy are dictated by something outside of DNA and he proposes that non-coding instructions in DNA are actually contained in the architectural arrangement of molecules within cells and in the interactions between them. This arrangement (shape memory) is what is preserved and transmitted from one generation to the next**.**

The findings of this study agree with the observations of Jose *et al* from the perspective that the entities found have their own identity and are unique since they have the differential phenotype of the host where they were gestated. In addition, the presence of visible pores or perforations also reported in the basement membrane of mouse embryos [Kyprianou et al [34] is noteworthy, supporting the theory that the entities found by us present characteristics of real embryos.

The analysis of living systems from molecular to population scales has revealed how the storage and processing of information across multiple scales is a key attribute of life, in which order can arise through the spontaneous association of molecules in the living system and the formation of dynamic structures (Tc) that can store and retrieve information from collections of self-assembled and self-organized molecules. These different ways of changing entities, sensors and properties highlight the multi-scale nature of living systems and suggest the usefulness of different entity-sensor-property frameworks at different molecular-microscopic-macroscopic scales that cannot be explained solely from the perspective of DNA or genome analysis.

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Our findings document how malignant tissues reactivated ancestral storage memory and elaborate, high-fidelity crystalline fractal chiral structures repaired copies of the damaged substrate tissue. The resultant embryoblast template probably guides and controls the regenerative pathway mechanism in human tissues as follows: 1) Modify and reprogram the phenotype of the tumor where these entities are generated. 2) Establish a reverse primordial microscopic mold to use the collective behavior of cellular building blocks to regenerate injured tissues. 3) Convert cancer cells to a normal phenotype by developmental patterning of active patterning cues. 4) Convert cancer cells to a normal phenotype by regeneration using the organizational level and scale properties of reverse genetic guidance. 5) Globally control mitotic activity and morphogenetic movements avoiding their spread and metastasis, determining a better life prognosis for patients who incubate these entities in their tumors compared to those who do not express them.

These images clearly express, as never before, how a geometrical ordering entity (Tc) can somehow physically regulate the micro-macro cellular environment where these entities are gestated. We can predict these structures based on the knowledge of microscopic forces of self-assembly. At present, there is no documented structure produced naturally, where this structural conjunction between physics and biology is so clear and perfect, which makes it a real platform to be copied and used in the assembly and design of new proteins and artificial biostructures.

Finally we believe that these isolated **collective cellular entities** are ready to be removed from their environment, as a product that has reached its maturity and has completed a cycle and is waiting to be used to develop new therapeutic alternatives not only in cancer but also in treatment of autoimmune and viral diseases and in regenerative medicine.

Authors' contributions

J.A.D., L.S , and L. A. D guided the project, wrote the paper and analysed the results. M.F.M L.C.P K.T.M., O. F. S., M. A.C. and L.K.S recollected and processed the samples.

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Competing interests

The authors declare that they have no conflicts of interest.

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FIGURE LEGENDS

Figure 1 Sequential development of embryoblast memory entities in cancer tissues, architectural metamorphosis from spiral cleavage to microscopic scales

It illustrates the evolutionary metamorphosis experienced by these embryoblast entities step by step from their inception to their complete development through 12 stages from crystalloid fractal memory modules and cellular memory, in which squamous cells change their polygonal cellular phenotype, sequentially acquiring the same pattern of the Tc phenotype, in stage 11 12 we observe the complete **metamorphosis** of the squamous cells transforming into an embryoblast entity.

Figure 2 shows in detail the Tc entity in all its magnificence. We can see how it is formed by a triplet of modularly integrated components, we can clearly observe repetitive triangular molecular crystals **indicated by the arrow in panel f**, we can see how this entity emerges from the secretory activity of the tumor gland as an **embryoblast blastocyst emerging** in the lumen of an endometrial adenocarcinoma as shown in panels e1 and e2. The architectural union of 3 spirals and 3 triangles organized spatially in absolute perfection forms what we call the Triplet crystal (Tc). When we observe this entity closely, we are surprised to observe that the tumor epithelial cells that are around it have acquired the phenotype of this entity as can be corroborated in panel m.

Figure 3 Figure 3 a, b is the macroscopic image where Tc was identified as described above, corresponding to a well-differentiated endometrial adenocarcinoma with macroscopic view. When we compare the **microscopic** Tc pattern with the **macroscopic pattern of the tumor**, the phenotype is identical. Panel c,d clearly shows Tc transferring information to the cells that are around it, these cells have taken the phenotype of the crystal as their own. The image was captured in a malignant lung tumor. Panel e, f shows the Tc on the right. On the left we can see how the squamous cells have reliably acquired the phenotype of the Tc. the material was captured in a tumor cytology of the uterine cervix.

Figure 4 represents the "evolutionary cycle" stage 8 and 9, the sequence in which Tc transfers information to tumor cells or groups of cells in various scenarios, changing the phenotype of the tumor cells to the crystal phenotype of Tc a) breast cancer HE 40 X stain. c) prostate cancer HE 40 X stain. e , f , g , h) breast cancer HE 40 X stain. i,j,k,l,m,n,o, lung cancer HE 40 X stain. p,q,r) colon cancer HE 40 X stain, s) macroscopic view skin cancer amputation .t, u,v) stomach cancer micro - macroscopic view . w x) macroscopic view skin cancer. y ,z) soft tissue sarcoma z1 z2) macroscopic view breast cancer.

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Figure 5 represents stage 12 of the "evolutionary cycle". Here we can see how the sequential development that began in some triangular molecular crystals ends in the production of embryoblast entities, measuring from 4 to 10 um but absolutely perfect, with their own identity, **each different from the others**, none he same a) tumor cell that suffered metamorphosis to embryoid like entity papanicolaou staining 40 x . b) in lung cancer HE 40 x stain c) in brain cancer glioblastoma multiforme HE 40 x stain d) in osteosarcoma HE 40x stain e) cervical cancer HE 40 x stain f) testicular cancer HE 40 x stain g) the panel shows a perfect embryoid like shape memory where we can observe in the cephalic zone a defined optical area, a petrose area with clear bone differentiation, in addition its body has a clearly recognizable vascular tubular differentiation. This entity was captured in the fluid of a cystic transformation zone of retroperitoneal malignant tumor, additionally these entities present neuronal differentiation as shown by the clear positivity for Enolase that these entities have as shown in panel h,i.

Figure 6 Glioblastoma multiforme panel a) The phenotype of the macroscopic lesion is identified. Panel b) documents the phenotype of the microscopic lesion, it can be seen how the two phenotypes are identical. Panel c,d) gastric cancer, the microscopic crystalloid phenotype is identical to the macroscopic tissue phenotype. Millions of copies of an individual microscopic crystalloid memory generate a collective macroscopic memory identical to the microscopic one in time (8 to 9 years) through the transfer of information, panel e,f) gastric cancer macroscopic phenotype identical to the microscopic phenotype.

Figure 7 **a, b .** 80 year-old patient with a breast tumor. A giant breast tumor lesion can be seen that clearly shows an unusual morphology of cephalo-caudal pattern with an upper base and a lower base that is also triangular and with a bilaminar caudal portion. The microscopic study of this lesion showed an identical lesion with a bilaminar component identical to the one observed macroscopically. The microscopic seed grew in time generating millions and millions of macroscopically identical fractal copies. Figure 7 **7 c, d** This is a 50 year old tumor patient with a uterine leiomyosarcoma, panel **c**, a nest-like lesion where 2 triangular structures are seen in a mirror image in chiral position with a spiral component, 2 structures are seen with caudal-cephalic characteristics where the structure is seen on the left of the embryoblast pattern feminine in appearance due to the curvilinear morphology of its lines, on the right side there is another less curvilinear morphology structure with a masculine appearance**,** a perfect masculine pattern structure on the left and a clear feminine pattern on the right. Figure **7 e, f Small intestine lymphoma**, **the microscopic phenotype is identical to the macroscopic phenotype,**

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Figure 8 a, b, c, d, e, f) This is a 35-year-old male patient with a retroperitoneal tumor lesion measuring 25 cm in length and weighing 2800 grams. Panels a, b, and c show the perfect tracing that we were able to carry out in this case. Panel a shows how the individual **microscopic** memory has its genesis inside a tumor gland from a molecular fluid that solidifies and crystallizes. Panel b,c irrefutably illustrates in stages 1,2,3,4,5,6,7 how the fluid secreted by the tumor epithelial cells solidifies and becomes crystalloid. From this individual crystalloid memory an easily discernible embryonic phenotype is sequentially formed in stages 3 to 7. Copies of this microscopic crystalloid memory generated an entity with clear fetal-type characteristics over a period of 8 to 9 years, identical to the crystalloid memory phenotype that served as the mold. Panel d,e, shows an almost perfect fetal macroscopic structure in profile and from the front, panel f shows a cross-section of the characteristics of the tumor that was diagnosed as a component of a sigmoid colon carcinoma.

Figure 9 a b c d

Initial experiments in our laboratory show that we can artificially reproduce the assembly of these embryoblast-like entities by inducing slight controlled physical-chemical stress on the epithelium of salivary glands in healthy young individuals.

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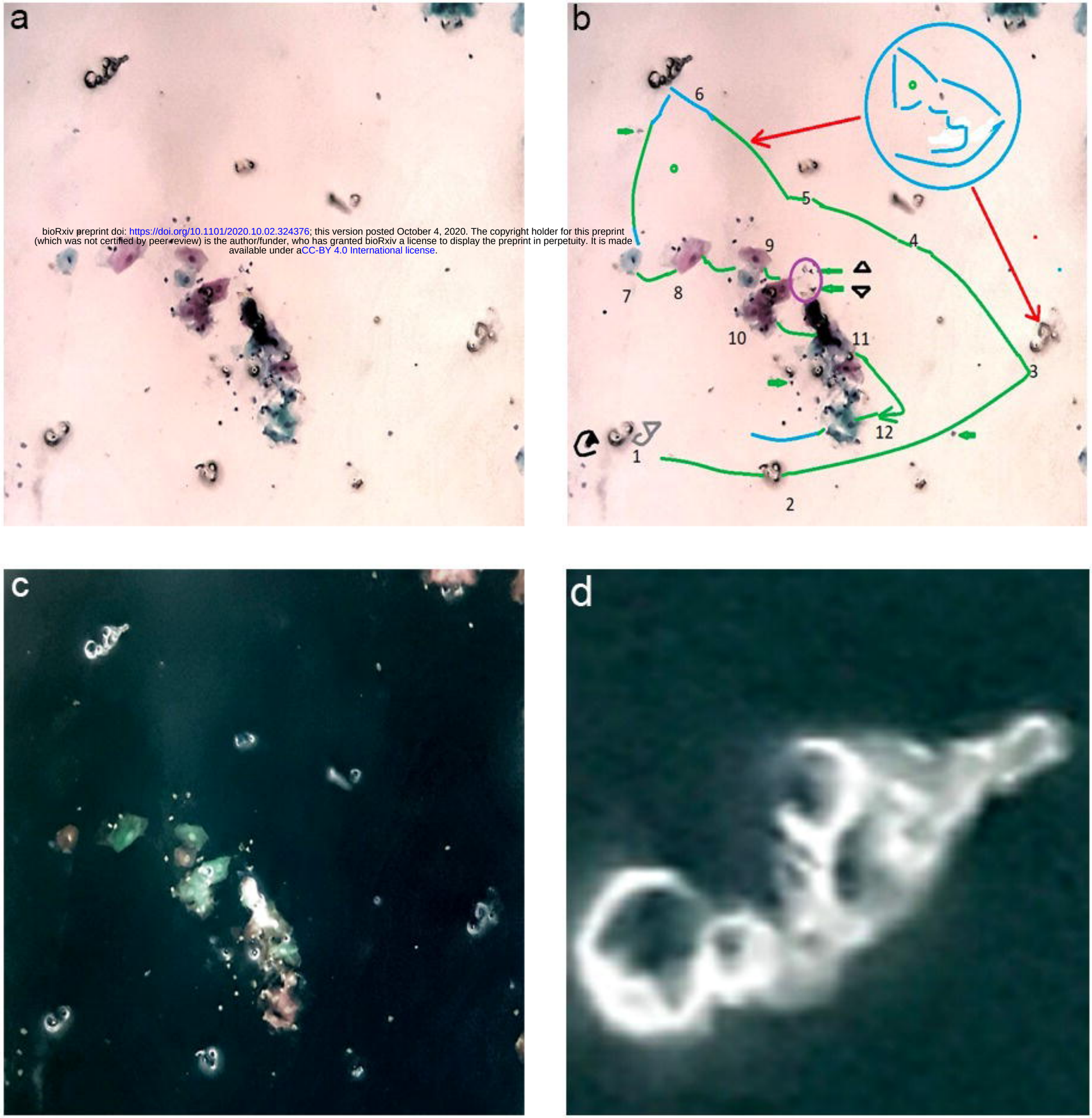

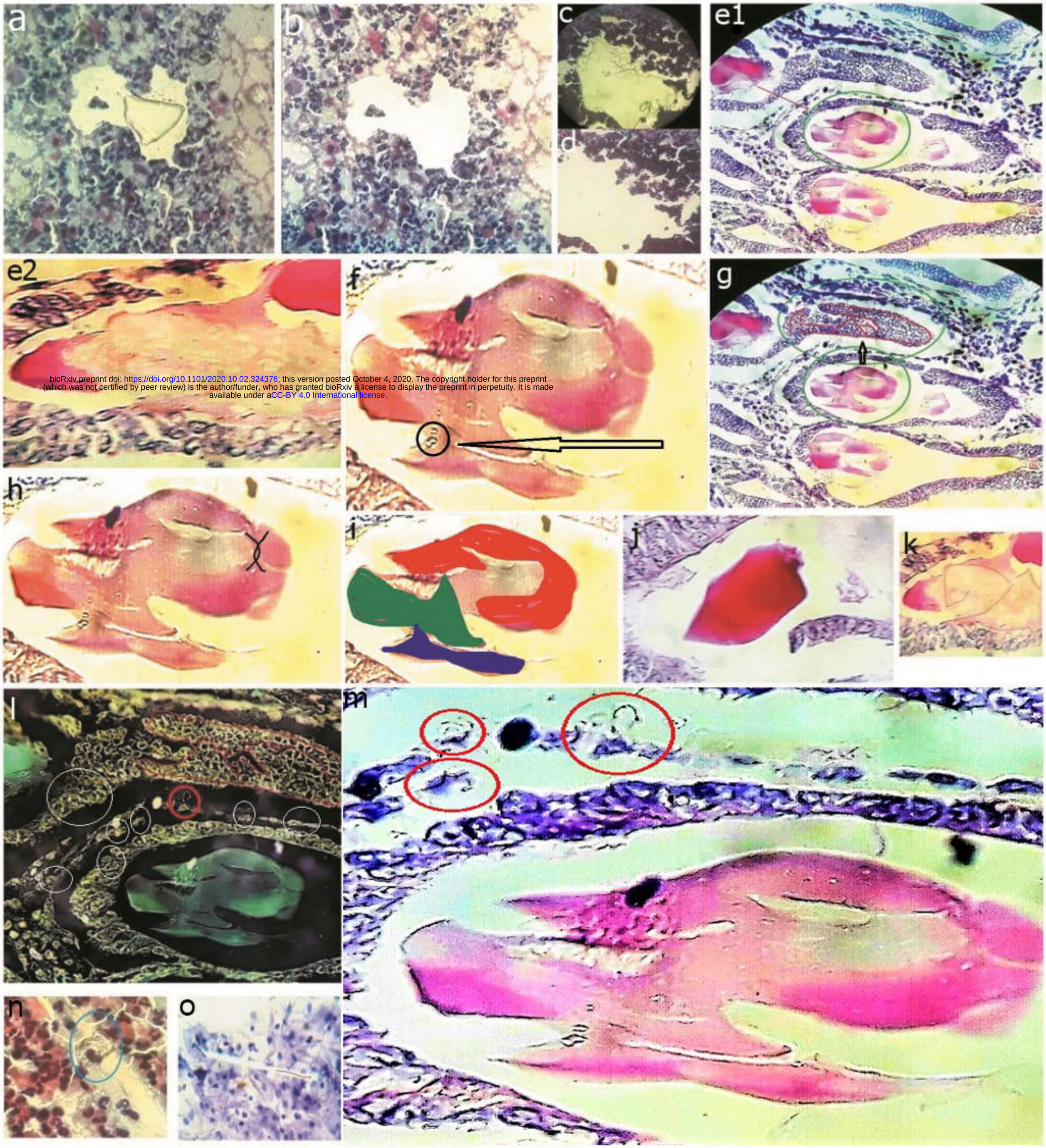

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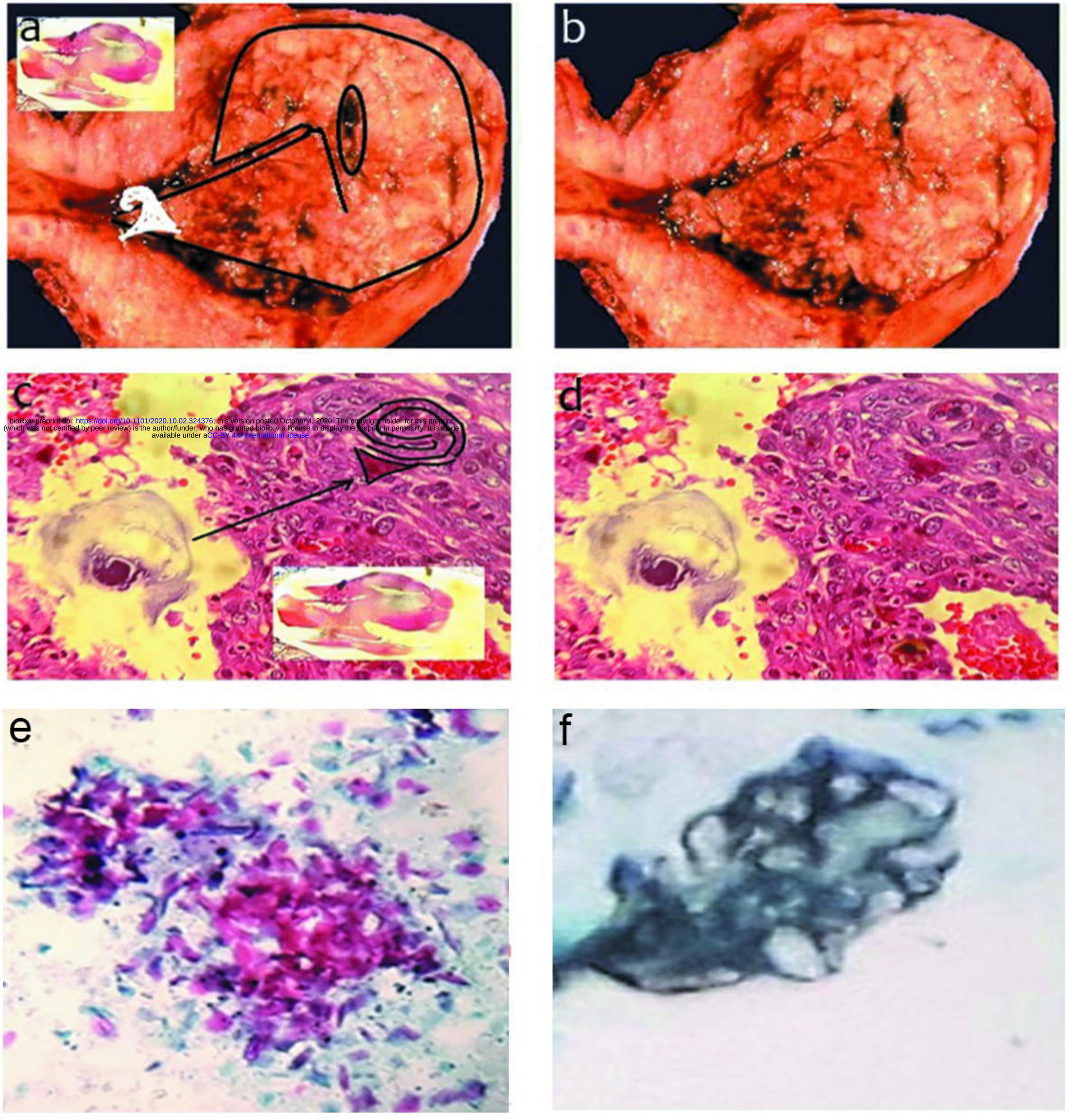

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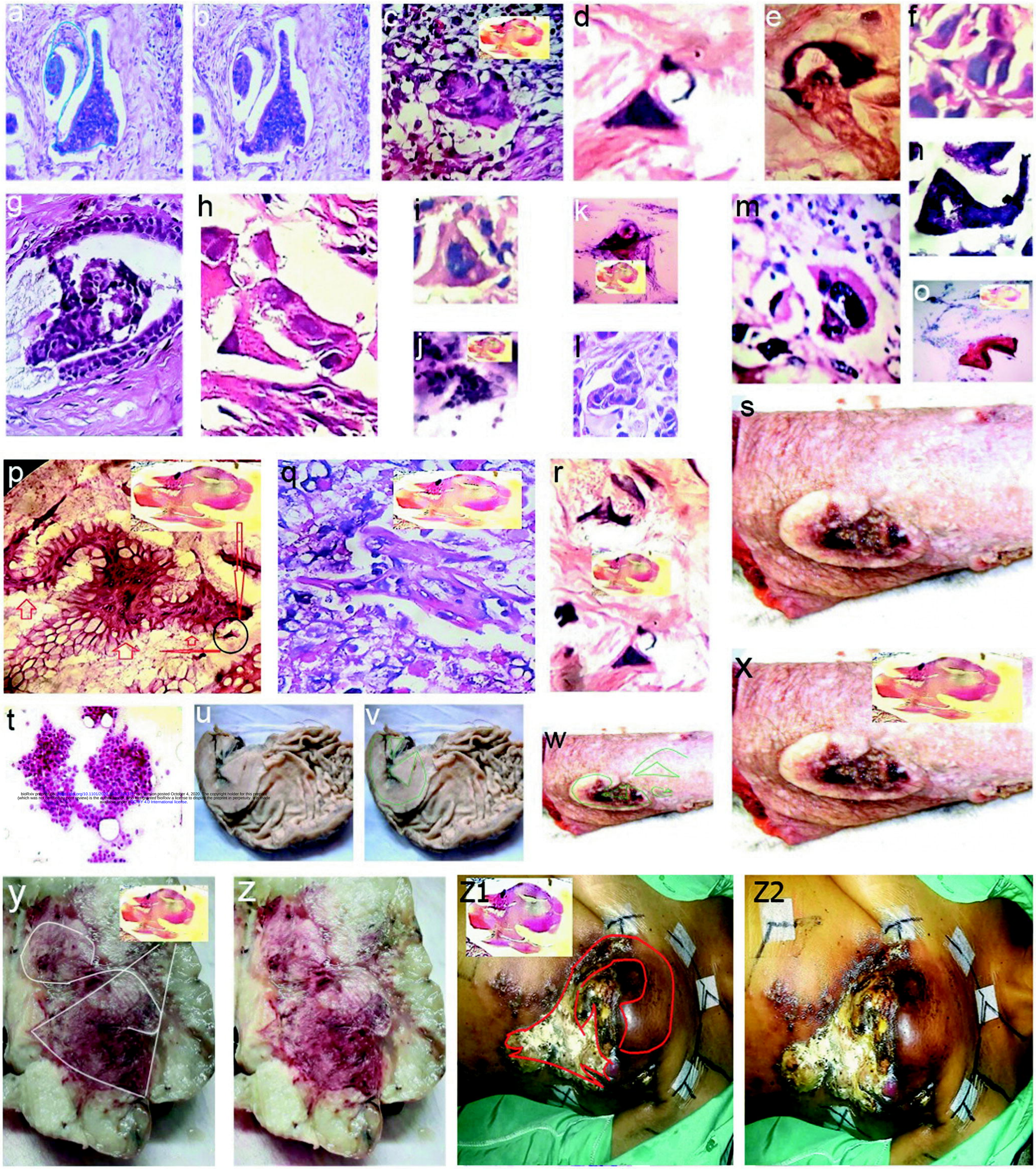

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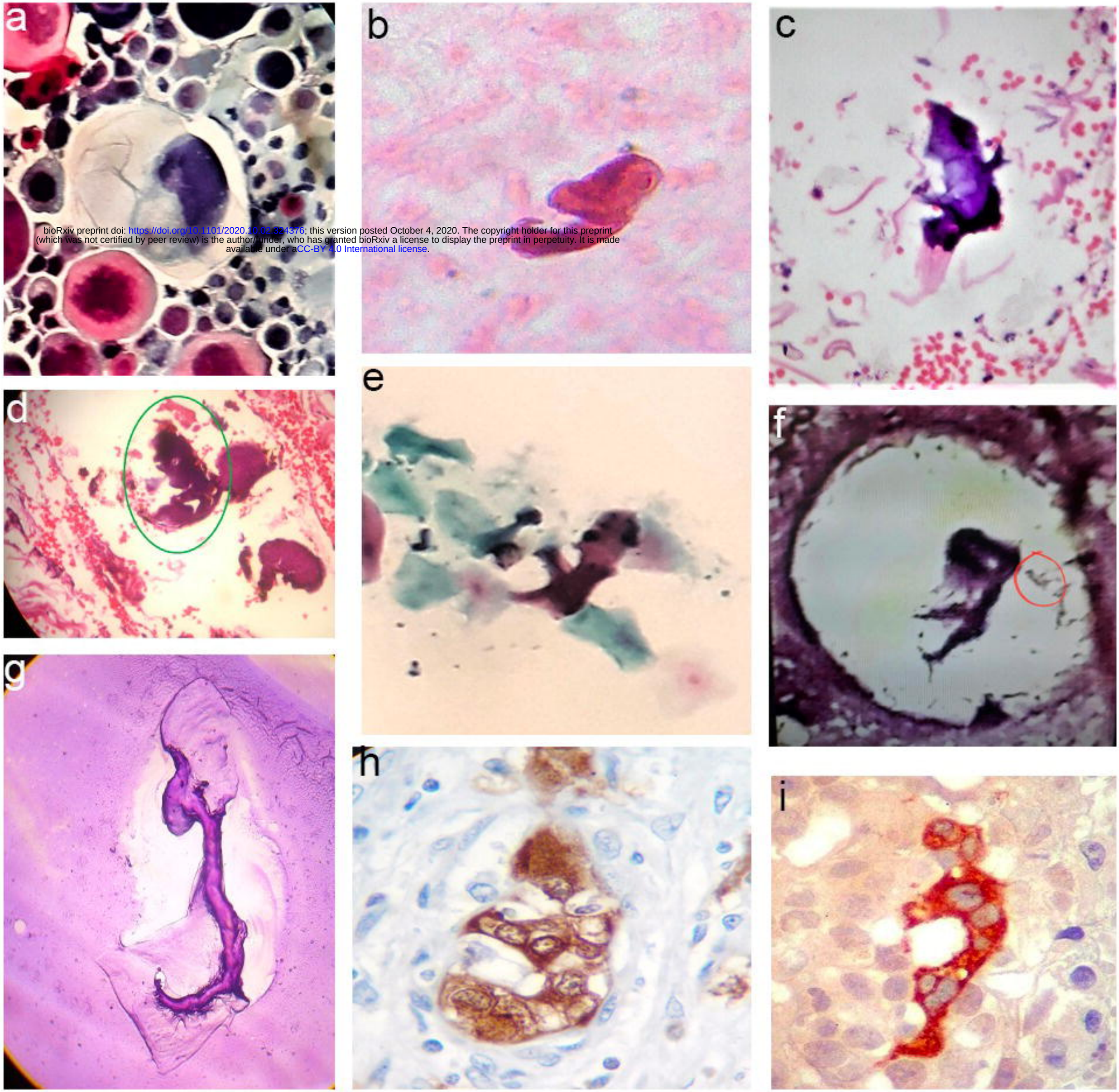

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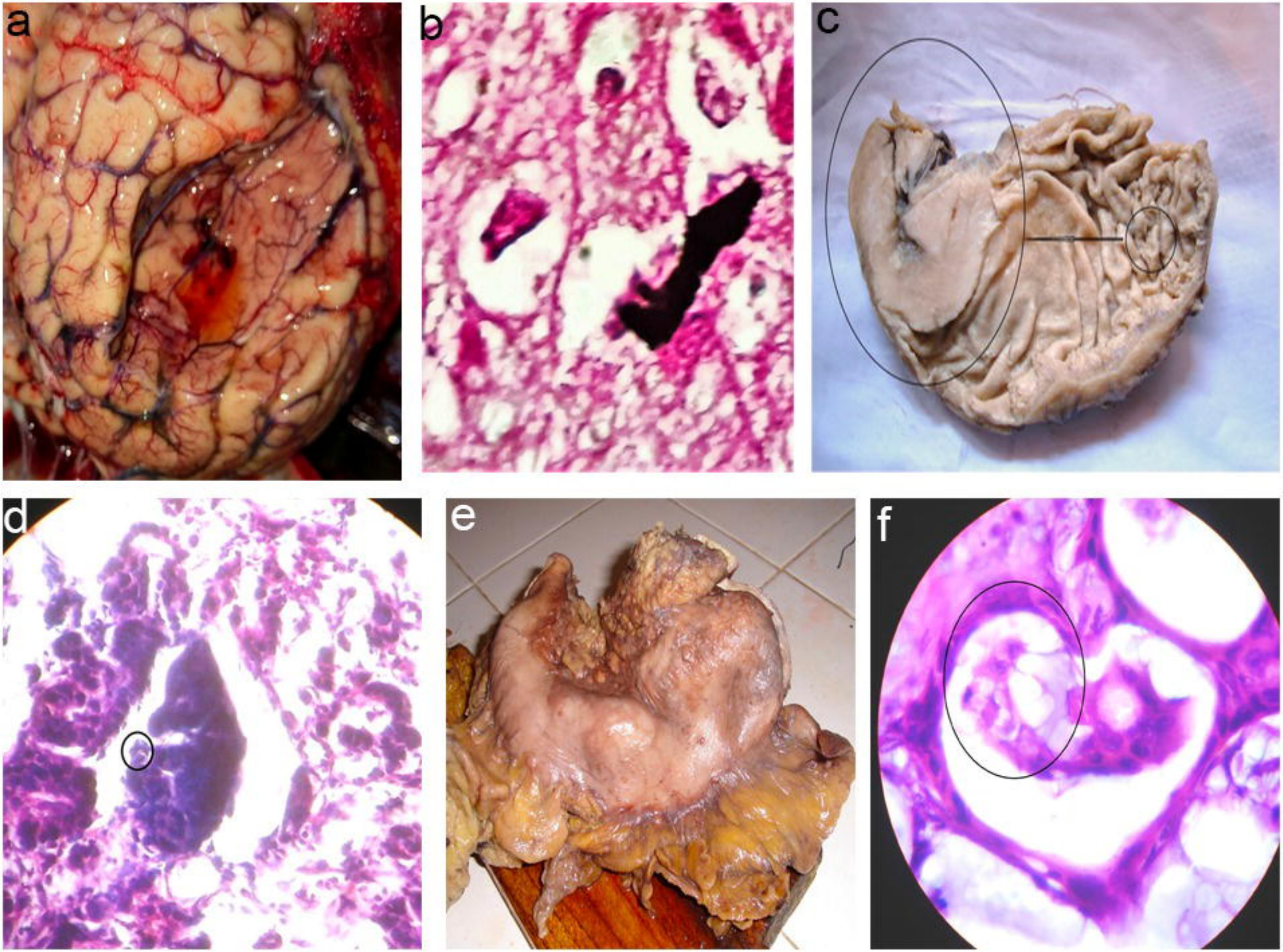
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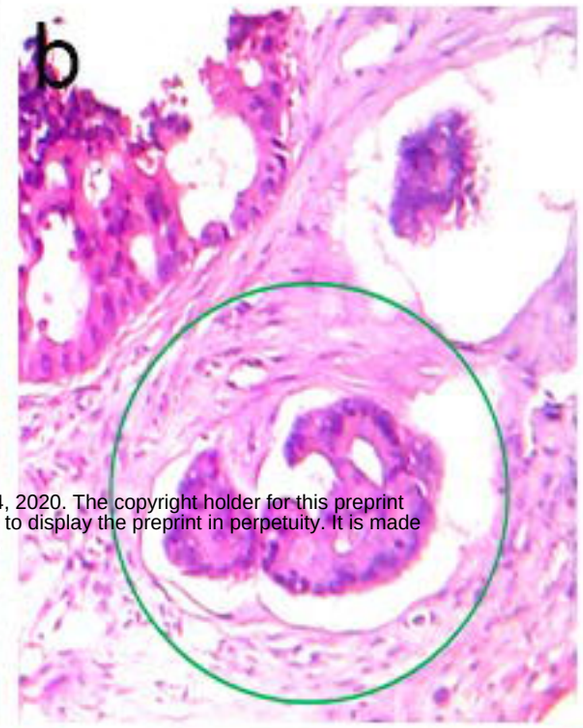

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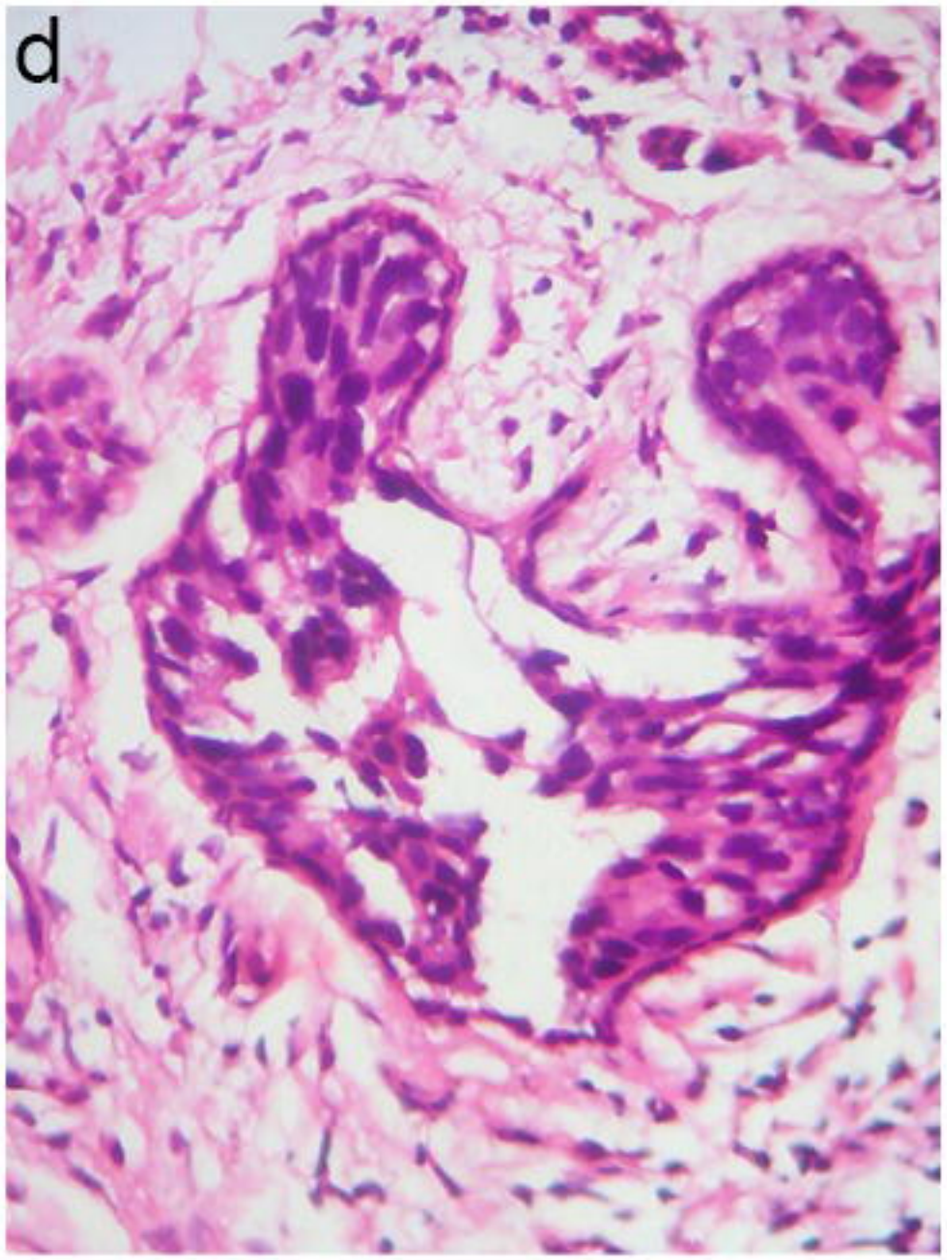

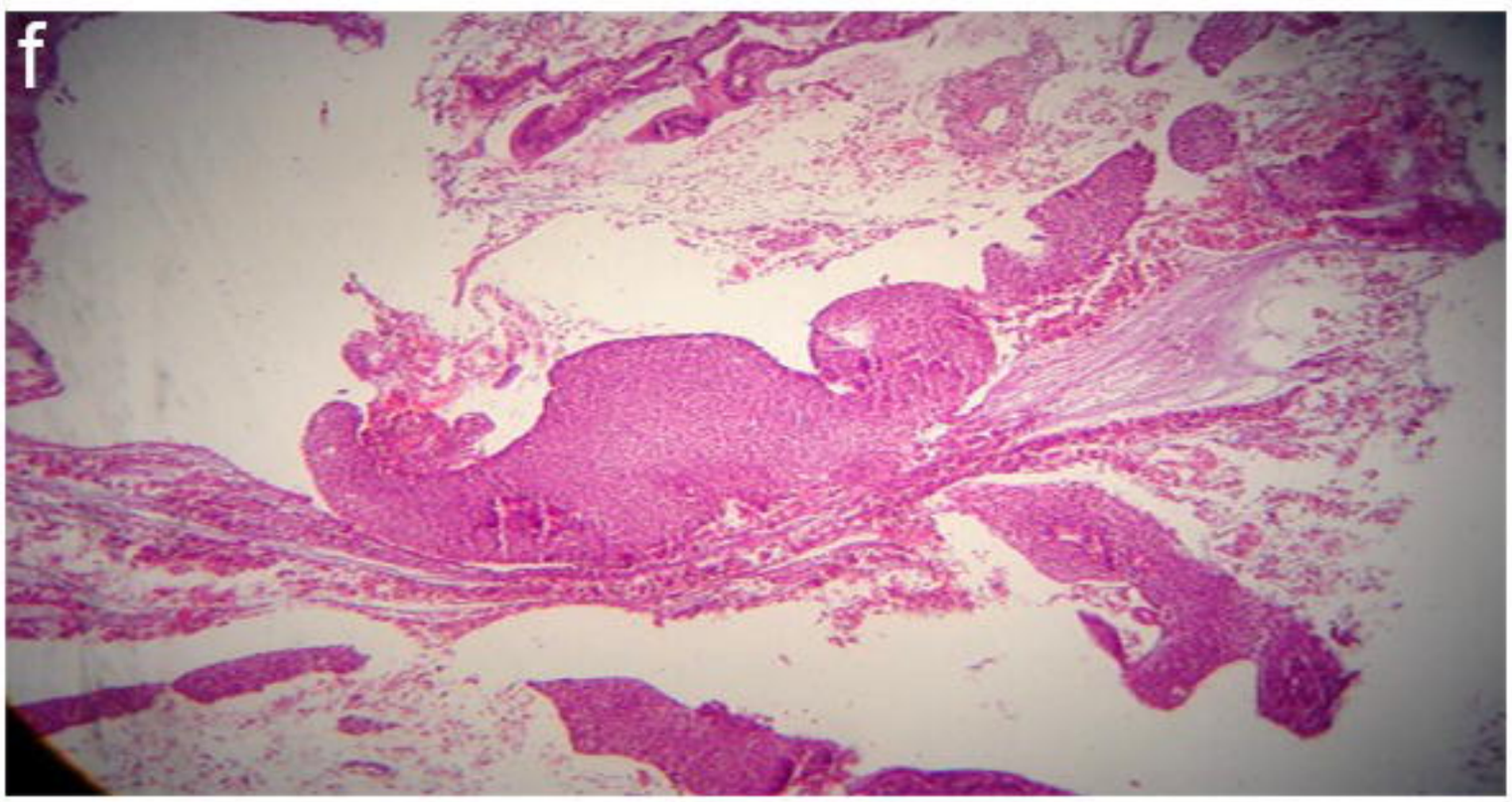

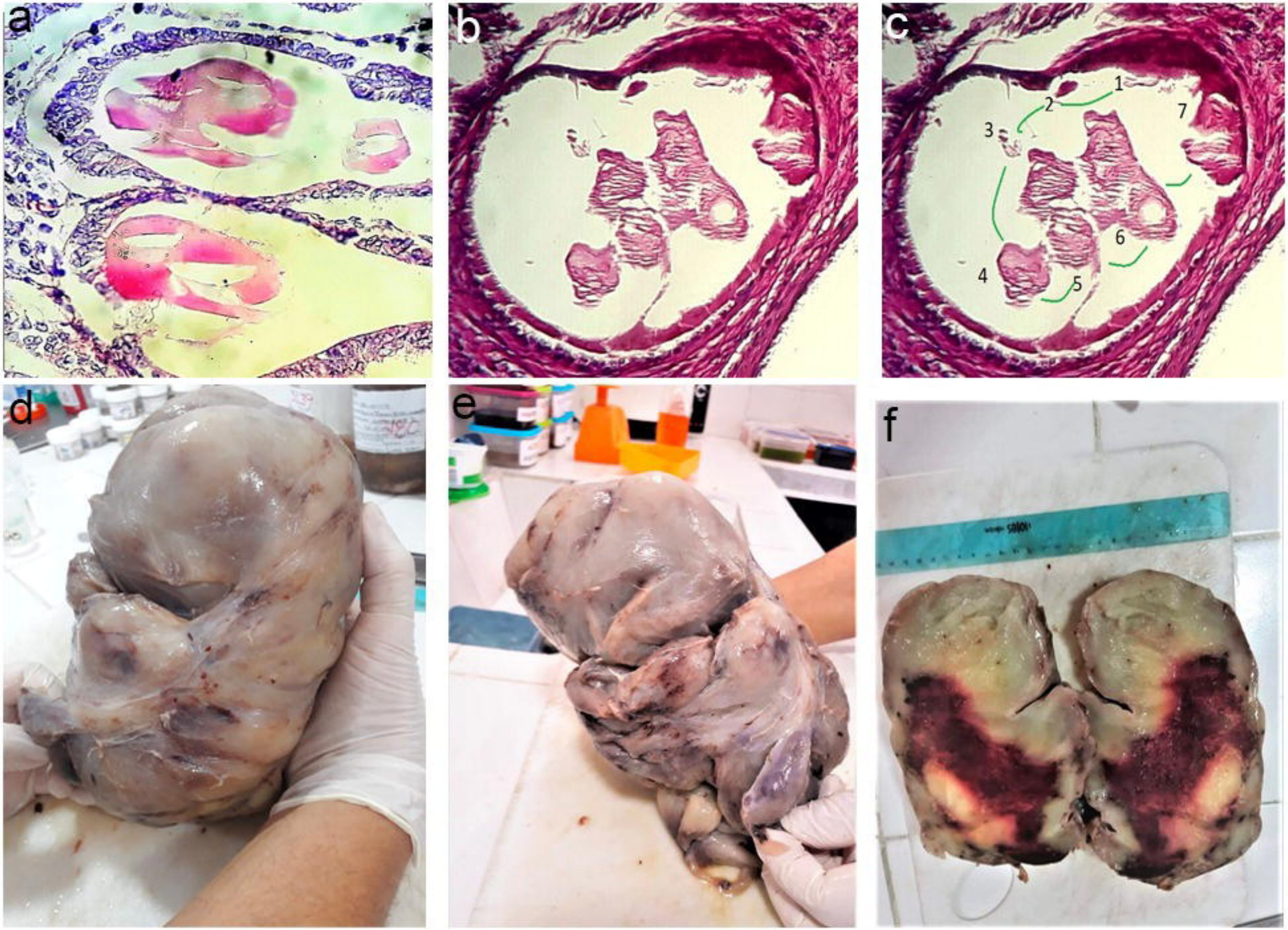
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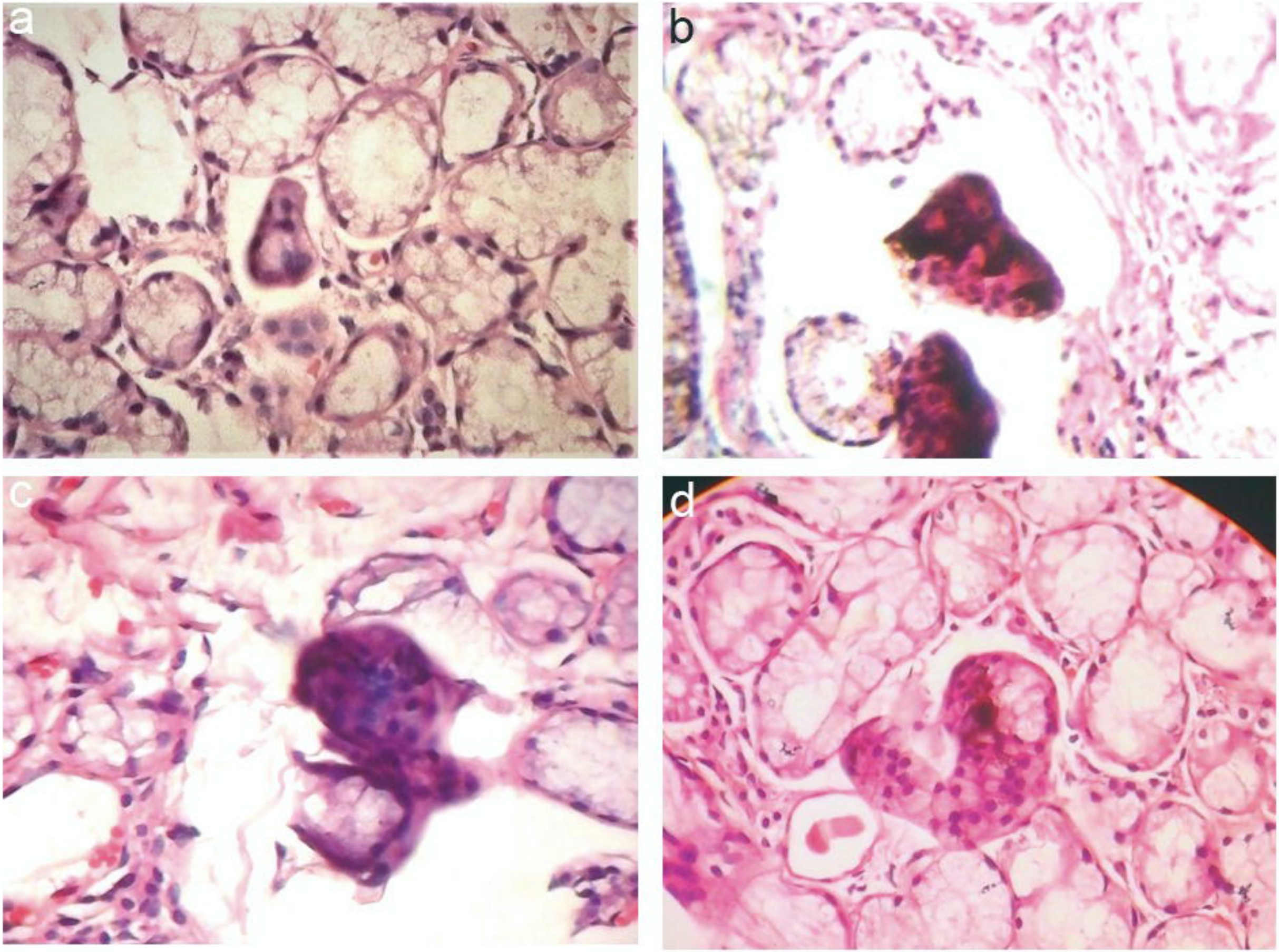
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