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Case Report

Sinonasal Inflammatory/Angitic Lesion Followed by Urothelial Carcinoma. Incidental Concurrence, Heraldic Sign, Paraneoplastic Syndrome or Wrong Diagnosis? - A Case Report

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1. Abstract

The Authors report an interesting case of a 69-year-old female who presented with an acute left ocular swelling. Imaging revealed a sinonasal mass. Two biopsies and the surgical specimen were diagnosed as inflammatory, non-neoplastic disease. The ocular swelling relapsed and resolved twice and at the sinonasal level no evolution of the pathology was detected. In the meantime, her general conditions quickly deteriorated and after ten months a peritoneal carcinosis was found and a possible origin from the bladder was detected with an ultrasound exam. The patient died after one year from the first ocular, sinonasal symptoms. The Authors wondered about either a casual concomitance or a neoplastic connection or a paraneoplastic syndrome. Histologic revision upgraded the diagnosis to a possibly malignant hemangiopericytoma but excluded the peritoneal masses origin to be "vascular". No biochemical suggestions for a paraneoplastic syndrome were ascertained, too. Even this casual, unlucky concomitance is for the Authors worth reporting as to confirm the importance of a strict follow up of the patients presenting with inflammatory/vascular lesions of the nose and paranasal sinuses.

2. Key words

Sinonasal neoplasm; Nasal-paranasal vascular tumors; Multiple tumors; Head and neck oncology

3. Introduction

Malignant tumors of the paranasal sinuses can sometimes cause metastasis, especially the poorly differentiated squamous cell carcinoma and some mesenchymal histotypes [1].

Likewise, paranasal sinuses can be site of metastasis. Renal cell carcinoma is the most common infraclavicular primary tumor that metastasizes to the nasal cavity and paranasal sinuses, although the reported cases are few [2,3]. In a recent review of 54 cases, Petruzzelli and Co., (2019) [4] found 21 cases (38.9 %) where the paranasal sinus metastasis was the first clinical sign of the disease. Other sources of metastasis to the paranasal sinuses are lungs, urogenital ridge, breast, gastrointestinal tract and thyroid [5].

Nasal and paranasal vascular tumors are mostly benign but may seldom show an aggressive behaviour or even have a metastatic spread. This is the case of the hemangiopericytoma [6] and the inflammatory myofibroblastic tumor [7].

In addition, inflammation of the blood vessel is the common disease mechanism of the vasculitis, a group of heterogeneous autoimmune disorders with an increased risk of cancer for certain organs, like bladder in the case of microscopic polyangiitis, MPA [8].

The Authors observed a case where an acute and relapsing ocular swelling was the first sign of a sinonasal mass. Quite surprisingly, two subsequent biopsies and the surgical specimen showed only an acute vascular inflammation without significant atypia. The local situation healed, with no further symptoms. Nonetheless the patient's general conditions progressively deteriorated, with detection of diffuse peritoneal metastasis from a primitive urothelial malignancy and final death, 12 months after the first ocular swelling.

In reviewing the specific literature, no report has been found of vascularized inflammatory lesions of the paranasal sinuses followed by abdominal or pelvic malignant tumors.

Besides a not significant correlation, the Authors wondered about a possible connection, in terms of harbinger (heraldic) and/or paraneoplastic evolution and reviewed both the laboratory index and the histologic material.

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The results of this revision, the case report and a discussion of the various scenarios will be hereby reported.

4. Case Report

The patient (C. W. Female, born in 1946), was first seen on December 10, 2015, through the E.R. of our Institution. She referred a sudden left ocular swelling, with eyelid hematoma and nasal obstruction, started two days before when she bent forward to pick up something dropped on the floor (Figure 1). She suspected a displacement of a lacrimal stent she had been implanted long before, for a persistent xerophthalmia and previous operation for cataract.

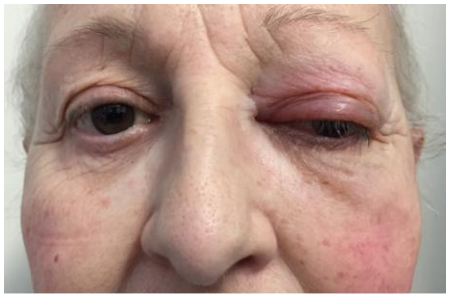

Figure 1: The patient at the first visit (December, 2015)

She also referred chronic thyroiditis lasting for more than ten years and atrial fibrillation since year 2003. She was being treated with synthetic thyroid hormone, antiarrhythmics and anticoagulants.

The ophtalmologist confirmed exophthalmos, mild palpebral ptosis and significant reduction of the ocular motility. No displacement of the lacrimal stent.

The ENT specialist performed a nasal endoscopy that showed a pinkish solid mass occupying the upper half of the left nasal fossa, with some inflammatory (purulent) aspects (Figure 2).

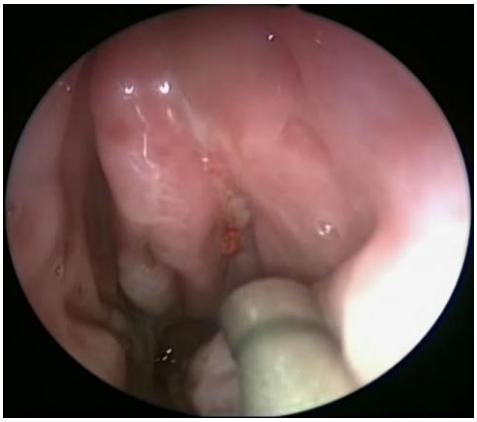

Figure 2: Appearance at the first nasal endoscopy (December, 2015)

A CT was also performed in the E.R., showing no endocranial involvement but an hyperdense, solid mass (3 x 3.6 cm) involving left ethmoid, orbit and upper part of the maxillary sinus (Figure 3).

The patient was hospitalized and an MRI with gadolinium was then performed (December 12, 2015), (Figure 4). It showed an ethmoidal mass that reached the medial orbital wall and the medial orbital floor, impinging the medial and inferior rectum muscles, with mild exophthalmos. The anterior skull base was intact.

Blood test was also taken, showing neither significant inflammation nor other abnormalities.

A biopsy was then obtained under local anesthesia and endoscopic control (December 14, 2015). Quite surprisingly no malignancy was detected, but "fibrinoid and granulocytic material, fragments of respiratory mucosa with edema and chronic inflammation of the lamina propria, small bone pieces associated with fibrous tissue including activated fibroblasts and lympho-histiocytic chronic inflammation".

Doubting a wrong tissue sampling, the biopsy was repeated (December 18, 2015), but the report was similar:". chronic inflammation with several, congested, small-to-medium-size vessels surrounded by loose stroma with spindle cells without atypia and mitosis. No suspect for epithelial and/or hematological malignancy. The histologic aspect could be referred to an angiomatous lesion or be secondary to an inflammatory status".

Based on the histology and relating to the nasal obstruction with eye complication, a surgical removal via an endoscopic approach was planned.

The patient was temporarily discharged with a significant reduction of the ocular swelling and a subtotal restoration of the ocular motility. Only standard antibiotic therapy (ceftriaxone) was administered.

In preparation for the surgery a new CT with contrast was obtained (January 29, 2016). It showed a significant reduction of the mass (2.2 x 1.2 x 1.5 cm) localized in the left middle meatus, with slight contrast enhancement but without deformation of the orbital con- tour. The left bony orbital floor was slightly thickened and demin- eralized. Inside the orbit, adjacent to the medial orbital wall, a thin layer of soft tissue with spotty areas of contrast enhancement was also detectable (Figure 5).

Because the patient referred a diarrhea lasting for the last month, blood tests were repeated and an abdominal ultrasound examination (February 11, 2016) together with a thorough gastroenterologic examination with colonoscopy (February 16, 2016) were undertaken before performing the operation on the nose and sinuses.

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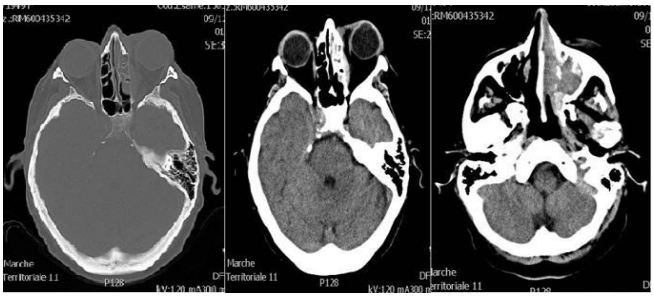


Figure 3: CT: solid mass (3 x 3.6 cm) involving left ethmoid, orbit and upper part of the maxillary sinus.

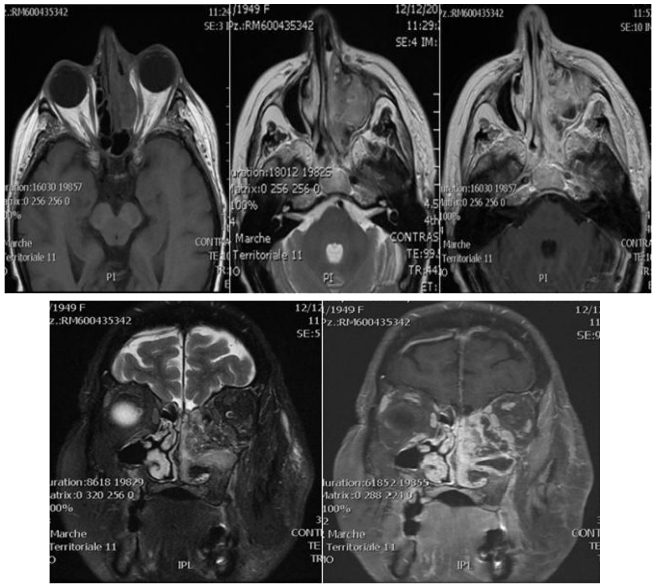
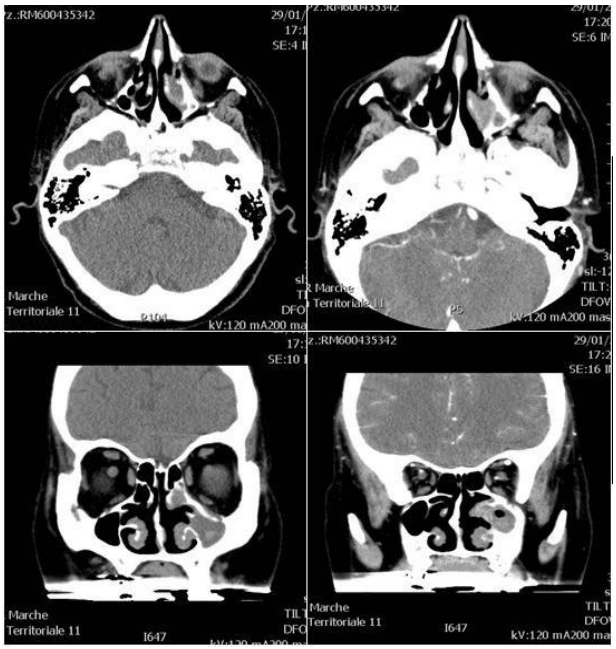


Figure 4: MRI: ethmoidal mass that reaches the medial orbital wall and the medial orbital floor, impinging the medial and inferior rectum muscles, with mild exophthalmos.



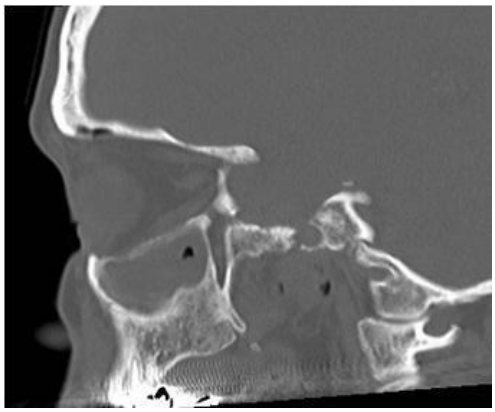


Figure 5: CT: significant reduction of the mass (2.2 x 1.2 x 1.5 cm). The bony orbital floor appears slightly thickened and demineralized.

ERS was 77 mm/h (n.v. < 30), PCR 2.78 mg/dL (n.v. < 0.5), WBC 5.600 /µL (n.v. < 9.500) and Calprotectine > 1000 (highly positive)

Both the abdominal ultrasound and the colonoscopy were negative, as it was the histologic control of the colon mucosa. The diarrhea was reduced and the patient could undergo the operation.

An endoscopic procedure was performed on February 20, 2016. A fiber polypoid mass was encountered and excised. A hyperplastic-mucoid-necrotic tissue was also present, occupying the whole ethmoid sinus, the sphenoid and the frontal recess. The lamina papyracea was permeated by such tissue and interrupted, but the periorbita was intact.

Again, the histologic report was as follows: respiratory mucosa and polypoid tissue with loose stroma, prevalence of lymphocytes and plasma cells, scanty eosinophils, concomitant areas of dilated glands, dense collagen, abundant small vessels with thick wall, iron deposits and hemorrhagic infarction.

On March 2 the ocular situation was as showed in (Figure 6), without impairment of ocular motility, but on March 16 it was back to normal (Figure 7). Endoscopically the situation was judged congruous with a normal healing process.

The patient was regularly followed. On May 20, 2016 a further left ocular swelling occurred, again remitting within few days. Nasal endoscopic examination revealed a substantially normal fibrous evolution.

A MRI was taken (May 23, 2016), with evidence of dural inflammation (Figure 8)

Considering the unclear situation and the resolution of the ocular swelling, a surgical revision, albeit considered, was postponed.

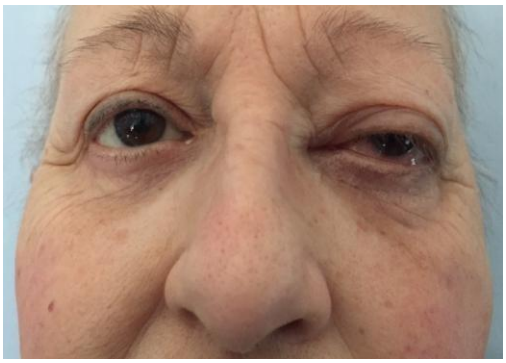


Figure 6: Recurrence of left ocular swelling (March 2, 2016).

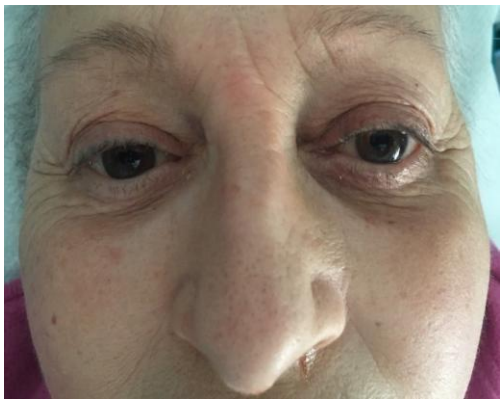


Figure 7: Remission of the left ocular swelling (March 16, 2016).

On June 30, 2016 the patient was seen again at the E.R., referring thoracic pain. Blood exams were positive for significant inflammation, but no immunologic anomaly was detected. A high-resolution thoracic CT was also performed, showing signs of pulmonary fibrosis and enlarged (2 cm) mediastinal lymph nodes. Enlarged (2.5 cm) lymph nodes were also detected in the lumbar aortic region, hepatic hilum and splenic hilum.

The patient was treated and discharged with the diagnoses of initial cardiac failure and addressed to the internal medicine outpatient office. Both an underlaying autoimmune disease and/or a paraneoplastic state were suspected. On July 4, 2016, a steroid treatment was prescribed and a follow-up planned.

The patient further referred to the E.R. on July 21, 2016, for persistent abdominal pain. An ultrasound examination was immediately performed and an enlargement of nearly all the abdominal limph nodes was detected, especially occupying the mesentery. Liver, gallbladder, pancreas, spleen and kidneys were grossly normal. Urinary bladder normal with no urinary stasis.

The patient was hospitalized and blood examination showed ESR 53, PCR normal, WBC 6200.

Renal function parameters were normal. Calprotectin value was 82 (border line), BNP 974 (n.v. < 300), Chromogranin A 993.3 (n.v. < 95), CYFRA 21-1 19.76 (n.v. < 2.08).

TB, HCV and HIV test were negative, as normal was also the serology for CMV, EBV, Toxoplasmosis, Brucellosis, Bartonellosis.

Abdominal pain improved and the palpability persisted as normal. Evacuation and micturition were normal.

A total body CT was then performed (July 28, 2016) and an enlargement of the abdominal and pelvic lymph nodes was confirmed, while liver, pancreas, spleen, adrenal glands and kidneys were normal. Pelvic organs normal, as well. No liquid was detected both into the peritoneal and the pelvic cavity (Figure 9).

An esophageal-gastric-duodenal endoscopy was further performed together with a new colonoscopy (August 1, 2016): no significant lesions were found.

A further nasal endoscopy was requested and performed on August 8, 2016. It did not show any sign of activity in the surgical area.

Before proceeding to an exploratory laparotomy with lymph node sampling for histologic examination, a total body PET with Ga-DOTANOC was also obtained (September 9, 2016). It showed a low uptake of the multiple and enlarged abdominal lymph nodes, particularly in the right iliac fossa (SUV max: 3.9), with low expression of the somatostatin receptors, type 2, 3 and 5.

The pre-operative blood tests showed WBC 5.100, blood urea 60 mg/dL, creatinine1.41mg/dL, eGFR 61 (n.v. >90).

The exploratory laparotomy was performed on October 7, 2016.

The surgeon found multiple nodes within the mesentery, along the iliac chains and into the pelvis. The palpation of the liver confirmed its integrity. Two nodules were excised, one for frozen sections (peritoneal carcinosis) and one for final histology. The abdominal fluid was also sampled.

The histology was consistent with a low-differentiated solid carcinoma, with clear-cell aspects. The neoplastic cells were positive for AE1/AE3, CK19, MOC31, RCC, CD10 (focal) and CAIX (focal). Were negative for CK7, CK20, CDX2, WT1, p53, GATA3, vimentin, estrogen and progesterone receptors, mammaglobin, PAX8, TTF1, TFE3, smooth muscle actin, Melan A, HMB45, calponin.

A renal origin was offered as first option.

The cytology of the abdominal fluid was consistent with adenocarcinoma.

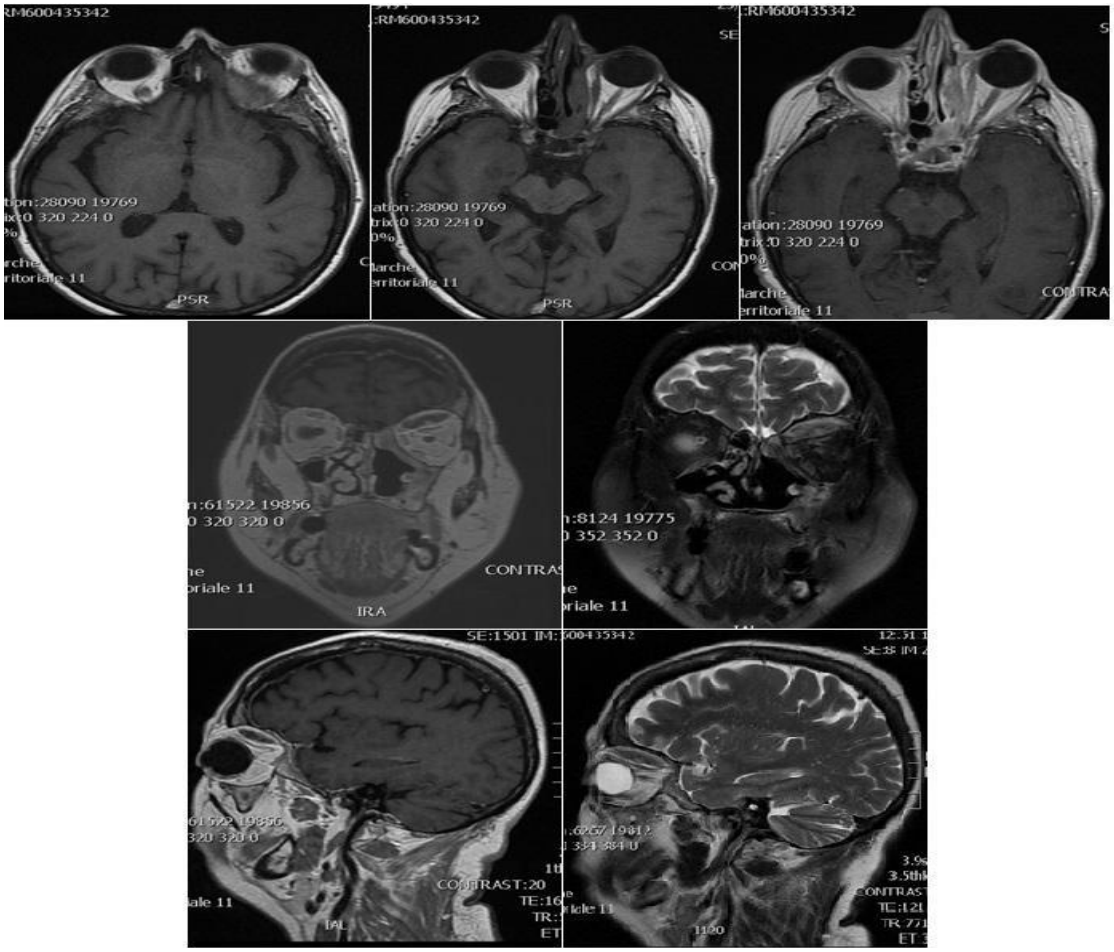


Figure 8: MRI: Dural enhancement.

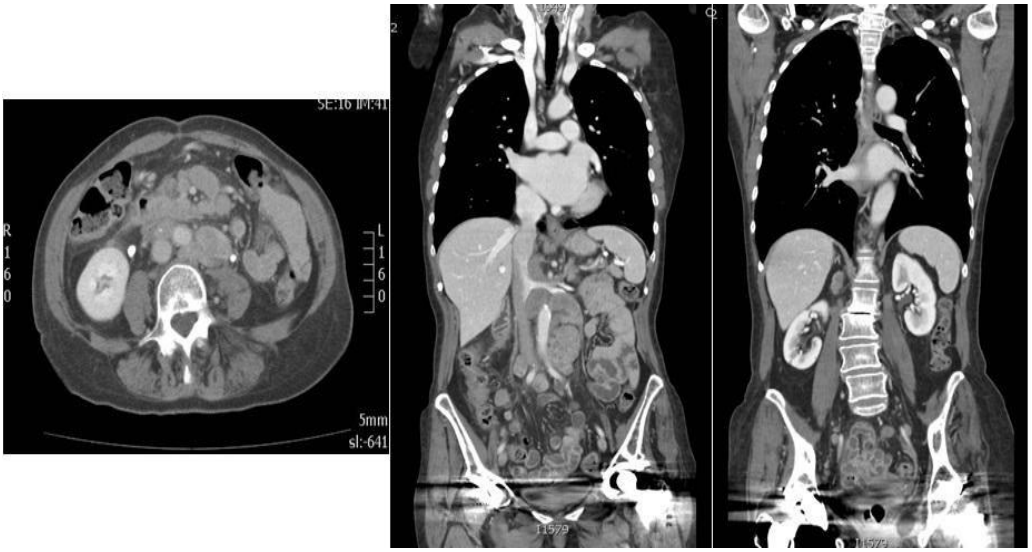


Figure 9: CT: Enlargement of the abdominal and pelvic lymph nodes.

Before hospital discharge, the patient underwent a further ENT examination (October 14, 2016) that again revealed no signs of activity.

A new cerebral CT scan was performed on October 28, 2016, with no evidence of gross active pathology (Figure 10).

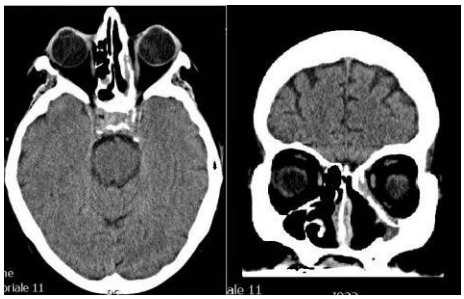


Figure 10: CT: no evidence of gross pathology

The patient was addressed to the Medical Oncologists. Lab test showed a further increase of the urea (149 mg/dl) and creatinine (3.33 mg/dl). Among the markers CA 15.3 was 71.10 U/ml (n.v. < 30), CA 125 was 314 µg/mL (n.v. < 37) while CYFRA 21-1 was 47.78 (n.v. < 2.08).

An abdominal ultrasound examination was also performed: a significant (18 mm) thickening of the right posterolateral wall of the urinary bladder was detected. This thickening was hypoechoic and extended under the peritoneal covering ("sierosa"), without entering the lumen of the bladder. Both the distal ureters were involved, with a II-III grade hydronephrosis.

The bladder trigone, vaginal fundus and uterine neck (cervix) were also infiltrated.

Intraperitoneal fluid was visible in all the recesses (Figure 11),

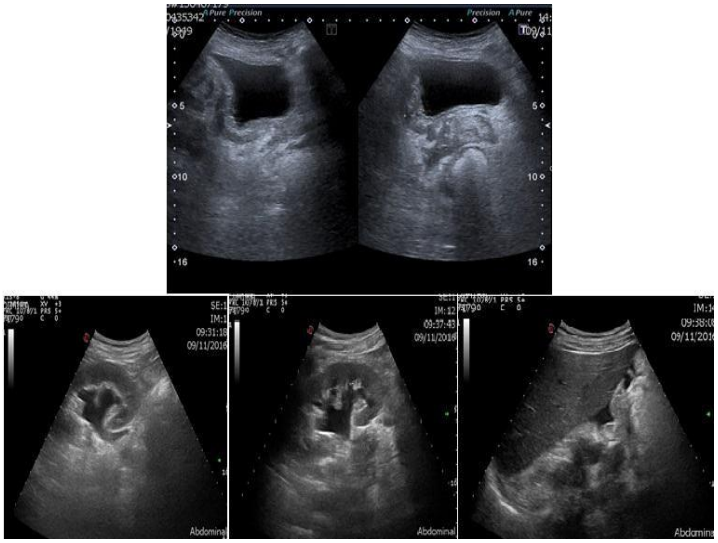


Figure 11: Pelvic Ultrasound: significant (18 mm) thickening of the right posterolateral wall of the urinary bladder. The bladder trigone, vaginal fundus and uterine neck (cervix) were also infiltrated. Both the distal ureters were involved, with hydronefrosis. Endoperitoneal fluid was visible in all the recesses.

Shortly after (November 12, 2016) the patient developed an acute (obstructive) renal failure and was admitted again to the Urology Unit for the placement of a urinary stent. Urinary cytology was negative. Renal index persisted high, but it was decided to try and avoid both a dialytic procedure and a nephrostomy due to the bad general conditions of the patient and her poor prognosis.

The patient was further moved to the Internal Medicine Department where was treated with symptomatic and antalgic therapy.

She was then transferred to the oncologic residence ("hospice") where she died shortly after.

5. Case Revision

5.1. Histologic Revision

FESS specimen (Figure 12).

Polypoid lesion rimmed by a border of superficially spared stroma and respiratory epithelium. The proliferation was composed of small and medium sized spindle cells with locally infiltrative borders. Tumor nuclei were mostly oval, relatively uniform with focal pleomorphism, and evenly spaced. The tumor cells had a moderate amount of eosinophilic cytoplasm with indistinct cell membranes. Despite the overall benign aspect of the lesion, mitotic figures as well as areas of necrosis were detected. Moreover, glandular structures were preserved but focal infiltration of the osseous lamellae was observed. The morphological revision and the histochemical and immunohistochemical studies ruled out epithelial neoplasia, hematological malignancy and fungal infection. The spindle cells stained for smooth muscle actin and factor XIIIa. Desmin, CD34, bcl-2, factor VIII, and S100 protein were negative.

A final diagnosis of sinonasal hemangiopericytoma (SNHPC) was offered.

Laparatomy specimen (Figure 13).

Histology was consistent with an undifferentiated solid carcinoma, with clear-cell aspects and pseudoglandular structures (PAS-). The neoplastic cells were positive for AE1/AE3, CK19, MOC31, CD10 (focal) and p63 (focal). Were negative for CK7, CK20, CDX2, WT1, p53, GATA3, vimentin, estrogen and progesterone receptors, PAX8, TTF1, TFE3, smooth muscle actin, Melan A, HMB45, calponin. A renal origin was offered as an option, suggesting a possible high-grade clear-cell renal carcinoma, or alternatively a urothelial origin was hypothesized. The latter was clinically favoured, based on the CT scan report of a normal structure of both kidneys. However, no evidence of vascular proliferation related to the primary sinonasal mesenchymal tumor was detected.

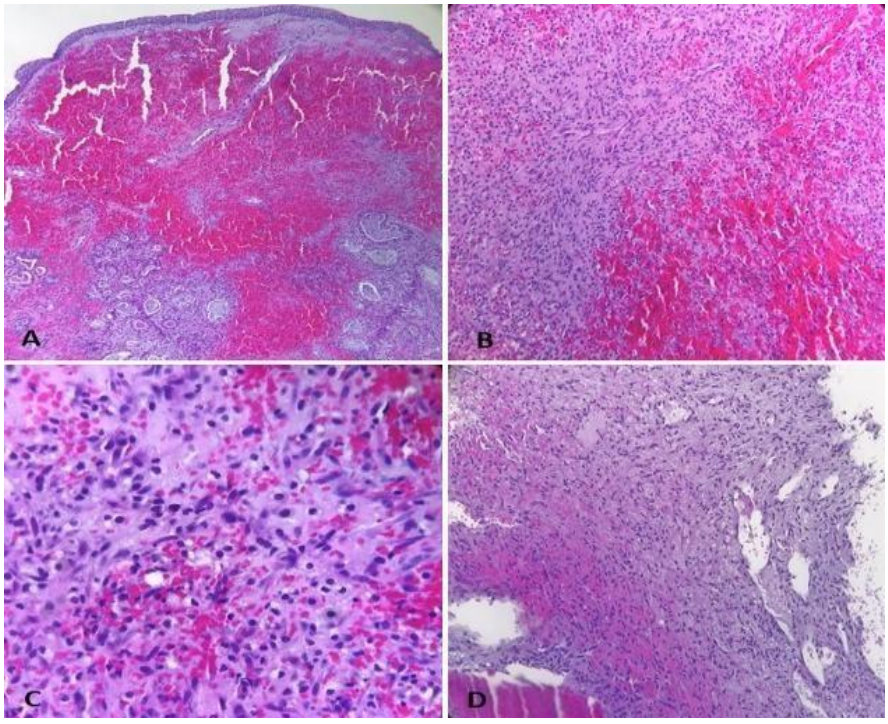


Figure 12: Polypoid lesion rimmed by a border of superficially spared stroma and respiratory epithelium (A). The proliferation was composed of small and medium sized spindle cells (B). Tumor nuclei were mostly oval, relatively uniform with focal pleomorphism, and evenly spaced. The tumor cells had a moderate amount of eosinophilic cytoplasm with indistinct cell membranes. Despite the overall benign aspect of the lesion, mitotic figures as well as areas of necrosis were detected (C). The spindle cell and vascular proliferation showed with focally infiltrative borders (D).

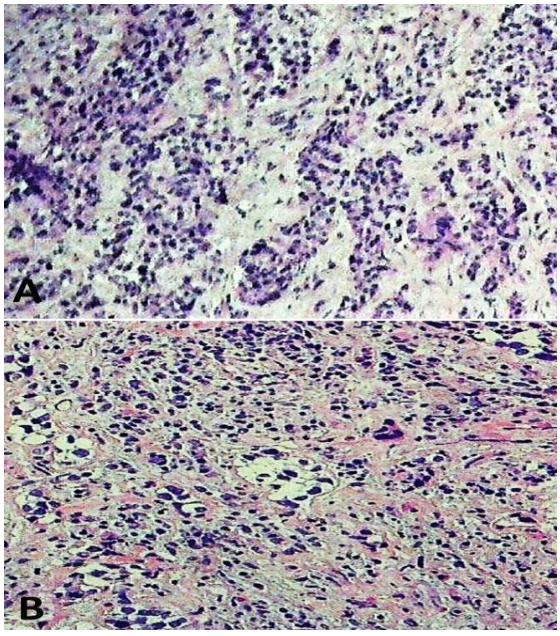


Figure 13: Undifferentiated solid carcinoma, with clear-cell aspects and pseudoglandular structures (A, B).

5.2. Biochemical Revision

No significant data supporting a vasculitic connection were detected.

6. Discussion

In the case hereby reported, three histologic samples were always consistent with a vascular, non-malignant lesion. Moreover, the revised diagnosis was still of vascular type, although more aggressive, sinonasal hemangiopericytoma (SNHPC).

SNHPC is a relatively rare tumor [9]. In a review of 104 SNHPCs, Thompson and Co. (2003) [10] found a wide range of age involved, the most frequent symptoms being nasal obstruction and bleeding.

The nasal cavity is the typical localization, whereas the sole involvement of the maxillary and/or ethmoid sinuses or the nasopharynx is relatively uncommon. SNHPC is treated by primary surgery and most patients have an excellent outcome. The local recurrence rate is 17-18%. Metastatic disease and disease-related mortality is rare, approximately 3%. On the histologic point of view, SNHPCs are polypoid and rimmed by a border of superficially spared stroma and respiratory epithelium. They may have pushing and/or locally infiltrative borders. Tumor nuclei are short, bland, uniform, and evenly spaced. The tumor cells have a moderate amount of eosinophilic cytoplasm with indistinct cell membranes imparting a syncytial appearance. The spindled cells form fascicular, storiform, or whorled growth patterns. The degree of cellularity can vary within the tumor, imparting a schwannoma-like landscape. Tumor vessels are numerous, thin-walled and branching ("staghorn" vessels), and form clefts and gaping spaces. Perivascular hyalinization is a characteristic feature; tumor cells may be seen oriented perpendicular to these hyalinized vessel walls. Generally, there is a low mitotic rate and nuclear pleomorphism is absent or minimal. Unusual reported features include keloid-like collagen deposition and lipomatous change. Immunohistochemically, SNHPC express vimentin, smooth muscle actin, muscle specific actin, and factor XIIIa. Recently, recurrent exon three missense mutations in CTNNB1 have been identified and associated with nuclear overexpression of β-catenin [11]. STAT6, desmin, CD34, bcl-2, factor VIII, and S100 protein are usually negative.

Hemangiopericytoma of the bladder is very uncommon. Raina and Co. (2017) [12] could found only 10 previous cases in the literature and reported the third malignant case.

In the case hereby reported, the absence of vascular proliferation, in the abdominal metastatic nodes, excluded a dissemination of a high grade malignant HPC.

In regard to the paraneoplastic hypothesis, urogenital neoplasms may be associated with vasculitis like the leukocytoclastic (hypersensitivity) vasculitis and the sweet syndrome [13]. Paraneoplastic leukocytosis in the setting of urothelial carcinoma is a rare phenomenon but confers a poor prognosis, with a rapid progression to death [14].

What is new/atypical/not-related, in the case hereby reported, would be the heraldic relationship (vasculitis before urogenital malignancy) and the localization (sinonasal instead of cutaneous-subcutaneous). Moreover, no significant biochemical data were found to support a possible, although not demonstrated paraneoplastic co-factor.

7. Conclusion

After revising the case, the Authors could not conclude for an association between the initial paranasal pathology and the final urogenital malignancy.

Despite the initial benignity of the paranasal neoplasm has been upgraded to (potentially malignant) hemangiopericytoma, the absence of vascular proliferation in the abdominal nodes exclude that the primitive NSHPC, even if malignant, might have been connected with the metachronous bladder transitional carcinoma. By the way, this latter was not confirmed because the patient's family did not allow the autopsy.

Likewise, a paraneoplastic link between the two conditions, although suggestive, could not be found, neither based on the pathologic and histochemical analysis nor on the biochemical tests.

The conclusion should then be for an unlucky and bad destiny of this sweet patient, where two neoplastic diseases occurred nearly simultaneously and led her to a quick death.

In conclusion, the Authors consider this case worth reporting, in order to underline the potential risk of distant disease in patients firstly diagnosed with even borderline sinonasal vascular neoplasms.

Such patients always need to be strictly followed in order to find out, as soon as possible, other malignancy, giving them the best chances of cure.

References

1. Lund V. Distant metastases from sinonasal cancer. ORL, 2001; 63: 212-213.
2. Singh J, Baheti V, Singh Yadav S, Mathur R. Occult Renal Cell Carcinoma Manifesting as Nasal Mass and Epistaxis. Rev Urol. 2014; 16(3): 145–148.
3. Serra A, Caltabiano R, Giorlandino A, Musumeci A, Conti A, Zanghì G, et al. Nasal metastasis as the first manifestation of a metachronous bilateral renal cell carcinoma. Pathologica, 2017; 109(4): 421-425.
4. Petruzzelli GJ, Shook T, Campbell WJ, Gupta S. Paranasal Sinus Metastases of Renal Cell Carcinoma: A Case Report and Comprehensive Literature Review. Ann Clin Case Rep. 2019; 4(1642): 1-6.
5. Chang M-H, Kuo Y-J, Ho C-Y, Kuan EC and Lan M-Y. Metastatic Tumors of the Sinonasal Cavity: A 15-Year Review of 17 Cases. J Clin Med. 2019; 8(4): 539-553.
6. Pandey R, Patel A, Patel K, Shah S, Shah MJ. Aggressive sinonasal

hemangiopericytoma presenting with liver metastasis: a case report. Indian Journal Of Medical & Paediatric Oncology. 2005; 26(1): 50-53.

7. Gale N, Zidar N, Podboj J, Volavsˇek M and Luzar B. Inflammatory myofibroblastic tumour of paranasal sinuses with fatal outcome: reactive lesion or tumour?. J Clin Pathol. 2003; 56: 715–717.

8. Kermani TA, Warrington KJ and Amin S. Malignancy risk in vasculitis. Ther Adv Musculoskel Dis, 2011; 1: 55-63.

9. Simmonds JC, Rebeiz E. Surgical resection of sinonasal hemangiopericytoma involving anterior skull base: Case reports and literature review. Am J Otolaryngol. 2017; 38(1): 87-91.

10. Thompson, Miettinen, Wenig. Sinonasal-type hemangiopericytoma: a clinicopathologic and immunophenotypic analysis of 104 cases showing perivascular myoid differentiation. Am J Surg Pathol. 2003; 27(6): 737-749.

11. Kono M, Bando N, Matsuoka R, Goto T, Akahane T, Kato Y, et al. Glomangiopericytoma of the Nasal Cavity with CTNNB1 p.S37C Mutation: A Case Report and Literature Review. Head Neck Pathol. 2019; 13(3): 298–303.

12. Raina A, Krane LS, Mirzazadeh M, Gentry MB. Malignant Hemangiopericytoma of the Bladder: Case Report and Literature Review. J Urol Nephrol Open Access. 2015; 1(1): 1-4.

13. Pelosof LC, Gerber DE. Paraneoplastic syndromes: an approach to diagnosis and treatment. Mayo Clin Proc. 2010; 85(9): 838-54.

14. Izard JP, Gore JL, Mostaghel EA, Wright JL and Yu EY. Persistent, Unexplained Leukocytosis Is a Paraneoplastic Syndrome Associated With a Poor Prognosis in Patients With Urothelial Carcinoma Clinical Genitourinary Cancer. 2015; 13(4): 253–258.