The utility of needle core biopsy in the diagnosis of Wegener's granulomatosis

Mona Mlika[1], Saoussen Hantous[2], Imen Helal[3], Emna Braham[1], Ali Mrabet[4], Faouzi El Mezni[1].
[1]-Service de pathologie. Hôpital Abderrahman Mami de Tunis / faculté de médecine de Tunis
[2]-Service de radiologie. Hôpital Abderrahman Mami de Tunis / faculté de médecine de Tunis
[3]- Service de radiologie. Hôpital Abderrahman Mami de Tunis / faculté de médecine de Monastir
[4]- Faculté de médecine de Tunis

Wegener granulomatosis (GW) is a necrotizing vasculitis associating an inflammation of the vessel wall and a granulomatous reaction. Small and medium sized vessels are concerned. Symptoms are usually related to otolaryngeal, pulmonary and renal localizations. It is a rare disease, which is equally observed in men and women with a mean age of 45 years (1). The diagnosis is based on a multi-disciplinary discussion including clinicians, pathologists, radiologists and biologists. Our aim is to present limited cases of WG discovered incidentally based on microscopic findings that were observed on trans-thoracic biopsy. Microscopic findings were diagnostic in all cases, there was no clinical suspicion of vasculitis in all of them.

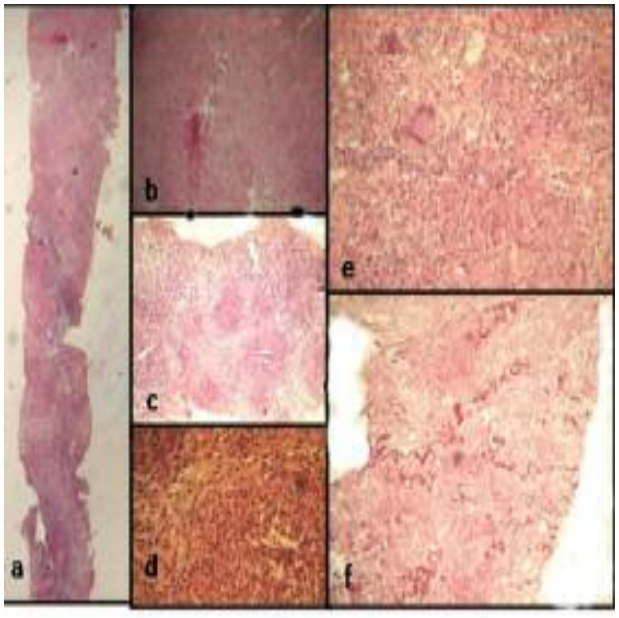
Observation

We report 4 cases of WG diagnosed on trans-thoracic biopsy based on microscopic findings without initial clinical suspicion. Our study contained 3 men and 1 woman with a sex ratio of 1.5 and a mean age of 52years and extremes varying from 41 to 69 years. Microscopic diagnosis was performed on trans-thoracic biopsies in all cases. It showed an inflammatory pulmonary parenchyma with extensive necrosis in 3 cases. Inflammatory infiltrate was made of lymphocytes, plasmocytes, neutrophils and eosinophils with multinucleated giant cells and epithelioid histiocytes infiltrating some vessel walls. Neutrophils were focally alterated forming micro-abcesses in all cases. The diagnosis of WG was evoked in all cases. Figure 1 shows a trans-thoracic biopsy with varying aspects: necrosis, vasculitis, micro-abscesses and granulomatous inflammation. Secondary to microscopic findings, clinicians reviewed radiological findings and performed ANCA tests in all cases. They found that radiological findings were suggestive of the diagnosis. ANCA level was increased in 1 patient. No patient presented renal or otorhynopharyngeal localization.

Conclusion

WG is a systemic vasculitis attempting mainly upper and lower respiratory tract. The diagnostic clinical triade of WG consists of upper and lower respiratory tract involvement along with renal manifestations (2). This triade is present in only 21% of the cases. All our patients presented only respiratory symptoms. Typical radiological findings were reported in 3 patients. Only 1 patient presented a unique nodule suggesting a lung cancer. In the other patients, infectious disease represented mainly by the tuberculosis was evoked.

Figure 1: a/ 5-mm core needle biopsy (HEx250), b/ extensive necrosis (HEx400), c/ lesions of vasculitis (HEx250), d/ neutrophils organized around small vessels (HEx400), d/ granulomatous inflammation with giant cells and epithelioid cells organized around vessels (HEx400), e/ orcein stain showing remnants of vascular elastic layers (HEx250).



Microscopic findings are usually performed on surgical biopsies or samples. Nowadays, techniques of sampling have been improving. Classical bronchial biopsy is replaced by transbronchial or transthoracic biospy. These new techniques are more accurate than traditional ones. Biopsy techniques for pulmonary lesions require balance between minimizing the invasive procedure and maximizing the amount of tissue available for histological analysis. Open-lung biopsy has a high diagnostic accuracy in patients with WG (3, 4) but it is associated with appreciable morbidity. The simpliest approach is trans-bronchial biopsy but the specimen is rarely informative in vasculitis. It plays a key-role in the diagnosis of WG because it avoids invasive techniques and it shows in many cases the three diagnostic lesions. The 3 major diagnostic features consist in vasculitis, necrosis and granulomatous inflammation (8).. Granulomatous inflammation was observed in ¾ patients. Microabcesses were present in all cases. This fact highlights the diagnostic value of this feature.

References

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A metallic intraocular foreign body discovered 26 years after ocular injury

Rim Bouraoui, Mejda Bouladi, Fatma Mghaieth, Nibras Chaker, Takoua Sammouda, Leila El Matri.
Service B, Institut Hédi Rais d'Ophtalmologie de Tunis. Faculté de médecine de Tunis. Université de Tunis El Manar.

The frequency of IOFB following penetrating eye injuries is approximately 40% [1,2,3] and the incidence of intraocular metallic foreign body is approximately 78% to 86% [3,4]. Retained IOFB can cause complications such as endophthalmitis, cataract, retinal detachment, glaucoma and ocular siderosis [4]. IOFB resulting from penetrating ocular injuries are usually detected at the first visit, however, the presence of IOFB may not always be readily identified and symptoms may only become apparent after a prolonged period of time causing complications.
We report a case of an asymptomatic intraocular foreign body that was retained for 26 years after penetrating ocular injury.

Case report
A 44-year-old man who suffered ocular trauma in 1983, presented with decreased visual acuity in his left eye. In the right eye, we did not find any obvious abnormalities. In the left eye, the best-corrected visual acuity was 20/40. A corneal punctiform opacity suggesting an entry wound scar, a mild posterior subcapsular cataract associated with anterior and posterior capsular punctuate opacities facing the corneal scar (Fig.1, 2). Funduscopy showed no definite abnormalities in either eye. Intraocular foreign body was suspected and orbital computed tomography was performed. It confirmed the presence of a round hyperdense metallic body that has a 2.9 mm of size and located near to the ciliary body (intra zonular foreing body) (Fig.3). The electroretinogram (ERG) revealed an ocular siderosis with an amplitude decrease of both positive (a wave) and negative (b wave) components in the photopic system (Fig. 4).
We indicated therapeutic abstention in this patient because of relative conservation of visual acuity at 20/40 despite ocular siderosis and the localization of the foreign body which was inaccessible.

Figure 1 : Posterior subcapsular cataract

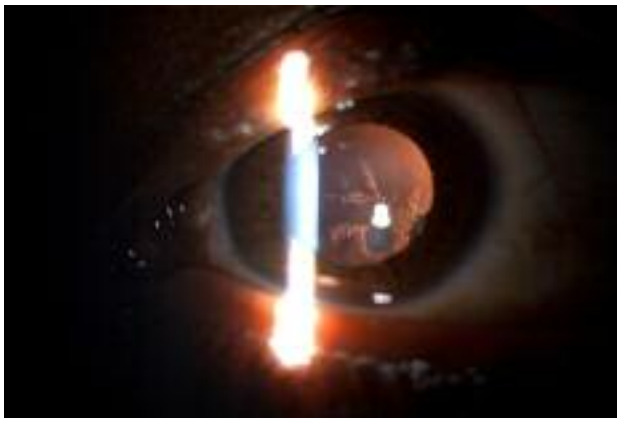

Figure 2 : Punctiform corneal scar, anterior and posterior capsular opacities facing the corneal scar

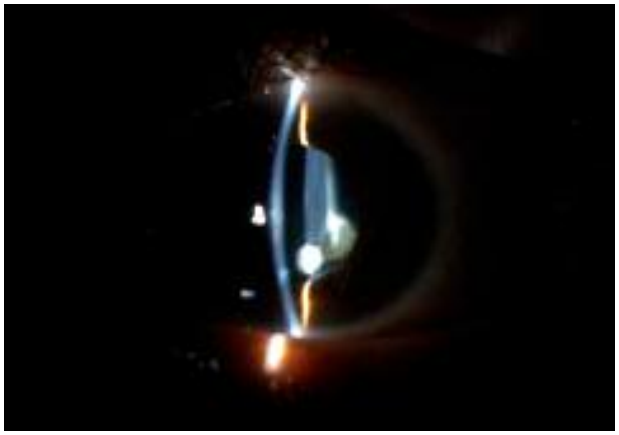

Figure 3 : Intra Zonular foreign body