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Takayasu Artiritis, Peyronie's Disease and Dupuytren's Disease: A Non-Fortuitous Association

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Abstract

Background: Peyronie's disease (PD), Dupuytren's disease (DD) and Ledderhose disease (LD) are three localized fibrosis. Its pathophysiology is still controversial. Many factors as genetic predisposition, trauma and inflammation could be related. These disorders are commonly associated to environmental factors, diabetes and microtrauma. Until now, there is not a study reporting an association between PD, DD and large vessel vasculitis particularly takayasu's arteritis. ***Case Report:*** It is about a 52-year-old man weaned from smoking since 15 years, with a history of takayasu's arteritis for 10 years. At the CT angiography, he had a stenosis of the left subclavian artery, left carotid artery and left renal artery with a functional right kidney.

At the physical examination, the penis size was normal but curved and deviated to the right side with palpable nodules. A penile ultrasonography was performed showing hyeperchogenic thickening of the tunica albuginea.

The upper limbs examination showed nodules in the palm, fourth and fifth fingers in two hands but more pronounced in the left hand, with contractures related to DD and absence pulses in the left subclavian, humeral and radial arteries. ***Conclusion:*** To the best of our knowledge, there are no studies or cases reporting the association between a vasculitis of large artery and DD and PD. The presence of a PD on an occluded renal artery and a DD on a stenosed left subclavian artery, could be explain this theory.

Keywords: Takayasu artiritis, Peyronie's disease and Dupuytren's disease

1. Introduction

Peyronie's disease (PD), Dupuytren's disease (DD) and Ledderhose disease (LD) are three localized fibromatosis. (Bogdanov I & Rowland Payne C., 2019) Its pathophysiology is still controversial. These disorders are commonly associated to environmental factors such as: genetic predisposition, trauma, diabetes and chronic inflammation.

Until now, there is not a study reporting an association between PD, DD and large vessel vasculitis particularly takayasu's arteritis (TA).

2. Case Report

A 52-year-old man weaned from smoking since 15 years, with a history of TA since the age of 37 year-old diagnosed according to the ACR 1990 criteria with an absent of the subclavian, humeral and radial left pulse, a

left carotid bruit and a stenosis of the left subclavian artery, left carotid artery and right renal artery in the CT angiography with a nonfunctional right kidney and renal hypertension. The patient was on corticosteroid and Diltiazem.

The patient reported a penile deviation to the right (Figure 1) and an erectile dysfunction for 6 months.

Figure 1. Penile deviation to the right with erectile dysfunction

Genital examination showed a normal penis size but curved and deviated to the right side with painless palpable nodules which were covered by normal skin (Figure 2). Testicules and epididymis were normal. A penile ultrasonography was performed showing hyeperchogenic thickening of the tunica albuginea and two calcified plaques in the dorsal aspect of albuginea of corpous right cavernosum.

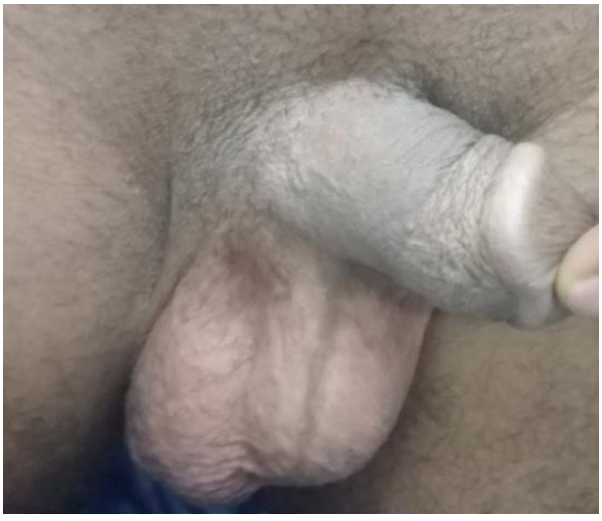

Figure 2. Palpable nodules covered by normal skin

The upper limbs examination showed nodules and fibrosis in the palm, fourth and fifth fingers in two hands but more pronounced in the left hand, with contractures related to DD (Figure 3) and absence pulses in the left subclavian, humeral and radial arteries.

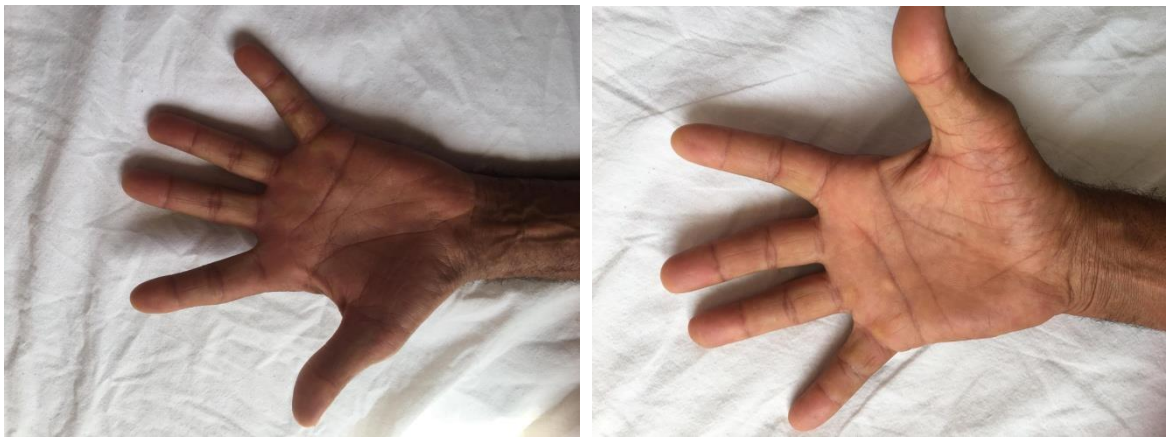

Figure 3. Nodules and fibrosis in the palm, fourth and fifth fingers in two hands but more pronounced in the left hand, with contractures related to DD

In the lower limbs, the femoral and pedal pulses were present and there is not sign of fibrosis linked to LD.

There was no history of trauma, drug consumption, alcohol abuse, diabetes, gout or familial diseases.

Laboratory investigation showed WBC, hemoglobin and platelet normal counts.ESR 20mm/h CRP was 5mg/l. ANA and ANCA were negatives.

The patient received Cortivazol with good follow up.

3. Discussion

This case of PD and DD is the first to be reported in a patient with TA.

PD is a benign fibroproliferative disorder, affecting the tunica albuginea of the corpora cavernosa in the penis. The disease is named after Francois Gigot de la, Peyronie in the thirteenth century. (Van Driel MF., 2015) Clinically, it is manifested by the occurrence of nodules in the penis with an erectile dysfunction and penile deformity. Erectile disease is observed in 40–50% (Ostrowski KA, Gannon JR & Walsh TJ., 2016).

Its aetiopathology is unknown. The process is initiated by local inflammation and collagen deposition with the implication of several cytokines including TNF alpha, TGF beta, and reactive oxygen species (ROS). (El-Sakka AI, Salabas E, Dinçer M & Kadioglu A., 2013) Various clinical conditions have been reported to be associated to PD including trauma, atherosclerosis, diabetes, smoking, drug use and following radical prostatectomy. It has been also described in patients suffering from various systemic diseases such as sclerodemea (Ordi J, Selva A, Fonollosa V, Vilardell M, Jordana R & Tolosa C., 1990), Churg-Strauss angiitis (Chantereau MJ, Laraki R, Lorcerie B, Bletry O & Chauffert B., 1991) and Cogan disease (Ollivaud L, Godeau B, Lionnet F, Abbou CC, Lejonc JL & Schaeffer A., 1993).

Associated conditions that are seen more commonly in patients with PD include DD, LD with plantar fascial fibromatos.

Surgery is the gold standard for treatment of stable, disabling PD, (Hatzichristodoulou G, Osmonov D, Kubler H, et al., 2017) but, this can be associated to penile shortening and changes in penile sensation, and thus, noninvasive treatments can be used like oral medications, topical medications, traction, vacuum erection devices, extracorporeal shock-wave therapy, electromotive drugs, radiation therapy, and intralesional injections. (Ory J, MacDonald L & Langille G., 2020) In our case, medical treatment was enough to reduce the sexual discomfort as surgical treatment was not indicated.

DD is also a fibroproliferative disease that involves collagen deposition and ultimately affects hand mobility and grip strength. (Lurati AR., 2017) Dupuytren described the anatomy of the disease and he believed that trauma was the main causative factor of this pathology. (Shaw RB, Chong AKS, Zhang A, Hentz V & Chang J., 2007)

Its aetiology is as yet poorly understood. (Grazina R, Teixeira S, Ramos R, Sousa H, Ferreira A & Lemos R., 2019)

Stöllberger C and al showed that antiPR3 elevation with negative ANCA may be associated with vasculitis, endocarditis, polyneuropathy and Dupuytren’s contracture. (Stöllberger C, Finsterer J, Zlabinger GJ, et al., 2003)

In our case we found both PD and DD in association to a large veesel vasculitis which is the first time to be described.

The presence of a PD on an occluded renal artery and a DD on a stenosed left subclavian artery with absence of LD in normally pefused lower extremities, suggest that the association of TA was not fortuitous and could be explain the theory of hypoperfusion.

References

Bogdanov I, Rowland Payne C., (2019). Dupuytren contracture as a sign of systemic disease. *Clin Dermatol., 37*(6), 675-678. doi:10.1016/j.clindermatol.2019.07.027

Chantereau MJ, Laraki R, Lorcerie B, Bletry O, Chauffert B., (1991). Atteinte endocarditique et urogenitale au cours d'une maladie de Churg et Strauss. *Rev Med Int, 21*(suppl.6), S468.

El-Sakka AI, Salabas E, Dinçer M, Kadioglu A., (2013). The pathophysiology of Peyronie's disease. *Arab Journal of Urology, 11*(3), 272-7.

Grazina R, Teixeira S, Ramos R, Sousa H, Ferreira A, Lemos R., (2019). Dupuytren's disease: where do we stand? *EFORT Open Rev, 4*(2), 63-69. Published 2019 Feb 20. doi:10.1302/2058-5241.4.180021

Hatzichristodoulou G, Osmonov D, Kubler H, et al., (2017). Contemporary review of grafting techniques for the surgical treatment of Peyronie's disease. *Sex Med Rev, 5*, 544-552.

Lurati AR., (2017). Dupuytren's contracture: work-related disorder? *Workplace Health Saf, 65*, 96-99.

Ollivaud L, Godeau B, Lionnet F, Abbou CC, Lejonc JL, Schaeffer A., (1993). Cogan's syndrome and Peyronie's disease: a non-fortuitous association. *Br J Rheumato, 32*(12), 1111. doi:10.1093/rheumatology/32.12.1111

Ordi J, Selva A, Fonollosa V, Vilardell M, Jordana R, Tolosa C., (1990). Peyronie's disease in systemic sclerosis. *Ann Rheum Dis, 49*, 134-5.

Ory J, MacDonald L, Langille G., (2020). Noninvasive Treatment Options for Peyronie's Disease [published online ahead of print, 2020 Jan 23]. *Sex Med Rev, S2050-0521*(19), 30127-1. doi:10.1016/j.sxmr.2019.12.002

Ostrowski KA, Gannon JR, Walsh TJ., (2016). A review of the epidemiology and treatment of Peyronie's disease. *Res Rep Urol., 8*, 61-70.

Shaw RB, Chong AKS, Zhang A, Hentz V, Chang J., (2007). Dupuytren's disease: history, diagnosis, and treatment. Plast Reconstr Surg, 120, 44e-54e.

Stöllberger C, Finsterer J, Zlabinger GJ, et al., (2003). Antineutrophil cytoplasmic autoantibody-negative antiproteinase 3 syndrome presenting as vasculitis, endocarditis, polyneuropathy and Dupuytren's contracture. *J Heart Valve Dis., 12*(4), 530-534.

Van Driel MF., (2015). Physiology of Penile Erection-A Brief History of the Scientific Understanding up till the Eighties of the 20th Century. *Sex Med., 3*(4), 349-357. Published 2015 Oct 22. doi:10.1002/sm2.89

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