Appendix 4

3. Peyronie’s Disease

3.1 Aetiology
The aetiology of PD is unknown. However, repetitive microvascular injury or trauma to the tunica albuginea is still the most widely accepted hypothesis to explain the aetiopathogenesis [1]. Abnormal wound healing leads to the remodelling of connective tissue into a fibrotic plaque [1-3]. Penile plaque formation can result in a curvature, which, if severe, may impair penetrative sexual intercourse. The genetic components of fibrotic diatheses, including PD and Dupuytren’s disease, are beginning to be understood; however, data are contradictory and we do not yet have the basis for predicting who will develop the disease or degree of severity [4, 5].

3.2 Risk factors
The most commonly reported associated co-morbidities and risk factors are diabetes, hypertension, dyslipidaemias, ischaemic cardiopathy, autoimmune diseases, ED, smoking, excessive alcohol consumption, low testosterone levels and pelvic surgery (e.g., radical prostatectomy) [6-12]. Dupuytren’s contracture is more common in patients with PD affecting 8.3-39% of patients [13-16], whilst 4-26% of patients with Dupuytren’s contracture report PD [15, 17, 18].

3.3 Pathophysiology
Two phases of the disease can be distinguished [19]. The first is the active inflammatory phase (acute phase), which may be associated with painful erections and a palpable nodule or plaque of the tunica albuginea of the penis; typically, but not invariably, a penile curvature may develop. The second is the fibrotic phase (or chronic phase) with the formation of hard, palpable plaques that can calcify, with stabilisation of the disease the penile deformity. Over time, the penile curvature may deteriorate in 21-48% of patients or stabilise in 36-67% of patients, while spontaneous improvement has been reported in only 3-13% of patients [9, 20-22]. Overall, penile deformity is the commonest initial symptom of PD (52-94%). Pain is the second most common in 20-70% of patients during the early stages of the disease [23]. Pain tends to resolve with time in 90% of men, usually during the first 12 months after the onset of the disease [20, 21]. Palpable plaques have been reported as an initial symptom in 39% of the patients with most situated dorsally [23, 24].

In addition to the functional effects on sexual intercourse, men may also suffer from significant psychological distress. Validated mental health questionnaires have shown that 48% of men with PD have moderate or severe depression, sufficient to warrant medical evaluation [25].
References