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# **Introductory Chapter: Pelvic Floor Disorders**

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## **1. Introduction**

The purpose of presenting this book is to provide an insight into various spectrum symptoms that the women present with pelvic floor disorders or/dysfunctions. Pelvic floor disorders and dysfunctions are overlapping terms. Pelvic floor disorders (PFDs) include urinary (UI) and anal incontinence (AI) and pelvic organ prolapse (POP) [1]. To understand pelvic floor dysfunctions, one must appreciate the role of the pelvic floor muscle (PFM). When the PFM is neglected or injured, one or multiple forms of pelvic floor dysfunctions may result, such as bladder and bowel incontinence, obstructive micturition, constipation, pelvic pain and sexual dysfunction, POP and/or low back pain [2].

Pelvic floor dysfunction symptoms of vaginal pain and backache is due to hypertonic pelvic floor muscle which is defined as general increase in muscle tone that can be associated with either elevated contractile activity and/or passive stiffness in the muscle [3]. Most of women present with pelvic floor defects/relaxation symptoms but pelvic floor dysfunction also include non-relaxing pelvic floor symptoms which are not widely recognized. Unlike in pelvic floor disorders caused by relaxed muscles (e.g., pelvic organ prolapse or urinary incontinence, both of which often are identified readily), women affected by no relaxing pelvic floor dysfunction may present with a broad range of nonspecific symptoms. These may include pain and problems with defecation, urination, and sexual function, which require relaxation and coordination of pelvic floor muscles and urinary and anal sphincters. These symptoms may adversely affect the quality of life [4].

## **2. Etiology, pathophysiology, and risk factors**

There are many theories which explain the urinary, fecal incontinence, and pelvic organ prolapse. The risk factors such as obesity, high parity, advanced age, and life style have been

mentioned but we still lack a real understanding of the pathophysiology of pelvic floor disorders. Although it seems apparent that multiple factors combine in each woman for the development of a clinical condition like prolapse or UI, these need to be identified prior to treatment to avoid recurrence of disease. The genetic predisposition aggravated by acquired risk factors, such as childbirth, hormonal changes, and aging predisposes the women to PFD. There is a lack of strong evidence for this hypothesis. Findings of epidemiologic studies are frequently inconsistent. A clearer comprehension of the pathophysiology responsible for PFD is clinically relevant on different levels. First, identifying the patient population at risk through screening of known polymorphism can lead to preventive strategies and the avoidance of contributing risk factors. Second, it may allow the development of interventional therapies where we can locally modify the extracellular matrix (ECM) composition of pelvic floor muscles and ligaments. Future research should then focus on understanding what processes control ECM remodeling and aging using specific and standardized measurement methods and tracing them back to genetic transcription [5].

### 3. Clinical symptoms and diagnosis

The pelvic floor disorders present with varied symptoms which are related to UI, FI, and POP. Although the women may present with clinical symptom of POP but they usually have backache, vaginal discharge in association with both urinary frequency and urgency and urinary leak while straining or during sexual intercourse. The fecal symptoms may occur after iatrogenic injury to anal sphincters during child birth. The prevalence of pelvic floor dysfunction is 24%, with 16% of women experiencing urinary incontinence, 9% experiencing fecal incontinence, and 3% experiencing pelvic organ prolapse [6]. The clinical presentation of pelvic floor disorders in an urogynecology clinic often lead to a diagnosis where a multidisciplinary approach is usually required for management of a case, which may include evaluation by an urogynecology radiologist. Complete diagnosis by clinical examination alone can be challenging, particularly in cases of posterior vaginal wall prolapse and/or a multicompartiment problem. Imaging has become an important complementary tool in the assessment of pelvic floor disorders, and dynamic pelvic floor magnetic resonance imaging (MRI), or MR defecography, has evolved as one of the essential imaging techniques [7].

MRI can simultaneously noninvasively evaluate all pelvic floor compartments and provide information about muscles and ligaments with great contrast resolution, without the use of ionizing radiation and with minimal patient discomfort [8].

### 4. Treatment

Since pelvic floor disorders present with site-specific defects, clinical presentation varies with grades of disease. The management really depends on the impact of disease on women's quality of life. The first line of management is always conservative which includes pelvic floor muscle physiotherapy, avoidance of risk factors like constipation and smoking but usually women do

require a definitive surgical treatment and few women may need a second procedure during their life time. Multi-compartment pelvic floor disorders are now increasingly being evaluated and managed jointly by urogynaecologists and colorectal surgeons in a designated pelvic floor clinic. Before embarking treatment, a comprehensive tool for symptom assessment or the use of a standard questionnaire is required. Patient should be counseled in detail about diagnosis, treatment options, success rate, and complications of a selected procedure.

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