Fournier’s gangrene, still an enigma

First documented in 1883 by Professor Jean-Alfred Fournier (1832-1914), Fournier’s gangrene (FG) has continued to be of interest to physicians, especially now urologists. Women and children, not mentioned in the original report, are now known to suffer from it. However, reports on women remain scanty. It is suspected that involvement of women is underreported. New reports, even if not offering much new, will continue to be relevant for continuing medical education because of continued late diagnosis by unsuspecting physicians. Each generation of doctors will first address issues in contemporary literature before recourse to past literature.

The diagnosis of FG is largely based on the clinical features, most importantly the anatomical area of the perineum and external genitalia. Thus both males and females are prone, as found by Unalp et al., in this issue. Radiological investigations as well as histopathology may assist in defining the extent of the disease and in monitoring response to treatment. In spite of efforts to determine prognostic factors, it has been difficult to significantly reduce the mortality and consequently morbidity. The Fournier’s gangrene severity index (FGSI) was proposed by Laor et al. in 1995 to prognosticate on the outcome of the disease but does not seem to have impacted on the management universally. A part of the problem with universal application of the index lies in the low incidence of the disease, such that any one unit cannot recruit more than a limited number of patients in a period of practice. The two papers in this issue rank among the top 10 largest series on FG since 1990. Both are retrospective studies and one applied the index. In view of the low incidence of FG, it is necessary to design some prospective studies on the subject, conscious of the long period required for such a study to yield reliable and useful results. Collaborative multi-center studies are necessary. It has been observed that FGSI can be a useful basis to compare outcomes of management of FG, without recourse to the index, every patient should be treated on the basis of individual merit and considerations.

Although in this issue of the journal, the authors did not find that anorectal source of sepsis had a worse prognosis, there could be an explanation for the findings of many authors that anorectal or colonic source of sepsis worsened prognosis. The anatomical area is awash with different types of organisms of varying virulence as well as synergism. The tissue planes permit organisms to spread. Testicular necrosis in FG is another indicator of severe disease as this points to retroperitoneal sepsis which causes thrombosis of the testicular blood vessels. The retroperitoneal sepsis limits adequate drainage unless drainage is instituted through a laparotomy. Ultimately, sepsis and its complications account for the majority of deaths in FG. The role of diabetes mellitus is reemphasized by the two authors in this issue with figures of 35.3% and 51.3%. In a previous review of 1726 cases published in the literature, diabetes mellitus was a factor in 20% of the patients. However, it is yet to be settled by authors universally whether diabetes mellitus in FG is an etiological factor, a predisposing factor or merely a co-morbid factor. All may find application in specific instances.

The ultimate goal in the management of FG is to eliminate mortality. Mortality rates in FG vary from center to center and from region to region. In an unpublished study by this author, mortality rates are lowest in Africa and highest in North America. This is in spite of advances in the management of afflicted persons. It is wise to treat every patient aggressively with available resources to prevent severe sepsis or stem the effects of sepsis. As stressed by the authors in this issue and others, aggressive treatment involves resuscitation with fluids and multiple parenteral antimicrobial agents and unrelenting excision of all necrotic tissues as they present. Many patients will be cured without the need for colostomy, grafts or hyperbaric oxygen treatment.
Are there any regional differences in the clinical presentation of adult growth hormone deficient patients?

Adult growth hormone deficiency (AGHD) is characterized by an adverse cardiovascular metabolic profile, altered body composition reflected in reduced muscle strength and mass, visceral obesity, decreased bone mass and an impairment in quality of life.[1] Nevertheless, the characterization of severe AGHD patients is not straightforward since there are some discrepancies among the different data series published. The main question is why. Possible explanations include: not enough blinded, randomized, placebo-controlled trials, different methodological evaluations, different degrees of GH deficiency (GHD) and possible bias in some systematic reviews. It is well known that gender, childhood onset and adult onset of AGHD, etiology and time elapsed between the onset of the deficiency and the time of evaluation of patients contribute to the aforementioned discrepancies.[2] An additional factor to be considered is the heterogeneity of the population studied in the different trials. Thus, different ethnic and regional influences have not been deeply studied to date.

In this issue of the journal, Bangdar et al., report the first study providing data about adult onset GHD in the Asian Indian population.[3] In a population of 30 AGHD patients and 30 matched controls, the authors observed that most of the patients presented abnormal body composition with central obesity and poor quality of life. They point out that patients older than 45 years of age of both sexes showed no bone mass and lipid abnormalities as compared to controls, while a low bone mineral density and an abnormal lipid profile was observed only in female patients under 45 years of age. They also observed that cardiac diastolic dysfunction was present only in females. Then, the authors conclude that females younger than 45 years would benefit most with GH treatment.

The abnormality in body composition with truncal obesity and increased fat mass, as well as the impairment in quality of life was a consistent finding in most studies.[2,4,5] However, many papers, including ours, have shown a considerable percentage of AGHD patients with remarkable alterations in lipid profile independently of gender, age and time of onset of GHD.[2,3] Regarding cardiac function, a frequent, though not consistent, finding is the presence of diastolic dysfunction in AGHD reported in up to 65% of cases, depending on the study.[6] In our experience, we found a large number of patients with prolonged pattern in adult onset GHD.[2] As the prolonged diastolic pattern is frequently observed during ageing, a relatively early impairment of diastolic function is likely in these patients.

Concerning the different degrees of impairment of bone mass and structure, they depend not only on GHD but also on the association with other pituitary deficiencies and their treatment.[7] The different variables studied (bone mineral content [BMC], areal bone mineral density [BMD] and volumetric BM D) also contribute to the discrepancies in the interpretation of results among different investigations. In most studies both BMD and BMC have been used, however, prospective studies have based their fracture predictions mainly on BMD. It is worth mentioning that measurement by DEXA underestimates volumetric density when the size of bones is small.

There is a known relationship between GH levels and alterations in carbohydrate metabolism. However, GH effects on fasting glucose and insulin vary among different studies.[8] In the present paper, Bangdar et al., point out that their patients showed no statistically significant difference between glucose and insulin while HOMA IR tended to be higher in patients as compared to controls. These authors state that Asian Indian people have a unique body composition with