INTRODUCTION

Undescended testis means a testis which is located outside its dependent scrotal position. The scrotal position is the normal post natal anatomic location for the testis. Since the testis originally develops in the abdominal region, its descent may be inhibited any where along its normal pathway it is diverted from this route into an ectopic location *(Rajfer, 1998)*.

The scrotal location of the testis is essential for normal spermatogenesis and epididymal function as it is 1.5°C color than body temperature *(Moffat, 1982)*.

The retractile testis is not truly undescended. Its extra scrotal location is secondary to hyperactive contraction of the cremasteric muscle. It is commonly found in the prescrotal or low inguinal area and with manipulation can be placed in the scrotum without tension *(Jarrow, 1990)*.

The undescended testis may be palpable or non palpable. A non palpable testis is either intra-abdominal, canalicular or absent. A palpable undescended testis may be superficial inguinal, emergent, high or mid scrotal *(Whitaker, 1992)*.

The five ectopic sites of testicular ectopia are the perineum, the femoral canal, the superficial inguinalpouch, the suprapubic area and the opposite scrotal compartment *(Tanagho, 1995)*.

Undescended testis is associated with inguinal hernia in 25% of patients. At surgery 95% of such patients are found to have patent processus viginalis ***(McAninch, 1992)***.

The most important long term complications of undescended testis include infertility and testicular cancer. The risk of malignancy is 10-14 times higher in men with cryptorchidism than in normal men and is highest in men who have an intra-abdominal testis and in certain intersex condition. The underscended testis is more liable to torsion due to lack of fixation in normal scrotum ***(Batata et al., 1980)***.

Therapy should be undertaken between 6 and 18 months of age. This will allow adequate time for spontaneous descent if it is going to occur and should minimize the potential complications of infertility and malignant degeneration ***(Witherington, 1984)***.

Two lines of therapy are available, hormonal therapy using human chorionic gondotrophin (HCG) and gonadotrophin-releasing hormone (GnRH) and surgical therapy as a number of different procedures for orchiopexy are effective, all are based on the principles of adequate mobilization and fixation and repair of the associated hernia ***(Nane et al 1997)***.

Investigations of undescended testis include non invasive and invasive technique. Non invasive methods comprising endocrine evaluation, ultrasonogarphy, computerized tomography and magnetic resonance imaging. Invasive methods comprising laparoscopic exploration, selective gonadal venography and arteriography ***(Gearhart and Robert, 1988)***.

Ultrasonogarphy is the imaging modality of first choice and is highly successful in locating a testis situated at or near the inguinal canal. Ultrasonogarphy is less useful for locating the intra-abdominal testis, where the initial attempts to locate an undescended tests using ultrasonogarphy have failed there are a number of possible options. Some surgeons would advocate laparoscopy which is helpful not only in locating the testis but also in planning the approach to orchiopexy ***(Johansen, 1988).***

Less invasive alternatives to laparoscopy include CT and MRI both of which can locate and also excellent methods of identifying and staging testicular malignancy. CT is extremely valuable in evaluation of undescended testis, recent techniques of spiral CT are considered of high sensitivity and specificity for evaluation of undescended testes ***(Friedland, 1988).***

MRI and MRA play an important role in detection of undescended testis, technical advances in magnetic resonance imaging notably high resolution MRI have opened up a new diagnostic application in male pelvic pathology. An indication in the preoperative localization of the ectopic testis if the sonographic findings are equivocal. ***(Rajfer, 1998).***

AIM OF THE WORK

It is assumed that imaging plays an important role in evaluation of undescended testis and its complications. Different radiological modalities are of different sensitivity and specificity in identifying the undescended testis and thus influences the line of management.

The aim of this work is to study the diagnosis of undescended testis using ultrasonography, computed tomography and magnetic resonance imaging.