

## Treatment Approach of Cryptorchidism in Developing Country

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### Abstract

The history of testicular descent is closely connected with the expression of masculinity and as such can be traced back to ancient Egypt. Research into testicular descent was initiated by Haller and Hunter. It was Hunter who discovered that the testes descend during embryonal life from dorsal abdominal wall into the scrotum. In the study conducted by "John Radcliffe Hospital" the incidence of cryptorchidism is 1.58%, spontaneous descent occurred postnatal in the first three months, and beyond that time, it was rare [1, 2]. As with other pathologies treatment and timing had changed during the years. Very important part of modern medical infrastructure is a functioning informative system, where the data about patients are registered. In the postwar developing country (Kosovo), rebuilding medical care and information system required a lot of effort and time. When the whole medical system needs to be rebuild and equipped, informative system is not in top priorities. What in normal circumstances can be one click away like history of patients, medical chart, lab exams, imagery studies, becomes lot of paper work that can easily be lost. Mainly difficulties were with patients in rural areas where awareness and access to specialist is not well covered. Providing medical care in these conditions can be quite challenging. The study was started after noticing that the patients that were diagnosed with cryptorchidism lost precious time until they were treated. In our series the mean age of patients was higher than recommended age for treating cryptorchidism. Ideal age for treating cryptorchidism is from 6 month to 2 years of life. First signs of damage to testes are identified at about 6 month of age. We decided to study this pathology in 3 years period, after starting awareness program and systematic controls in schools and kindergartens. Conclusion: After starting systematic controls and awareness program, mean age of the patients diagnosed and treated for cryptorchidism is in decline.

**Keywords:** Cryptorchidism, Testes, Orchiopexy, Hormones, Medical risks, Modern treatment.

### Introduction

Cryptorchidism (from the Greek *kryptos*, meaning "hidden" and "orchis" meaning testis) refers from the absence of testis to the scrotum. Undescended testis is best defined as testis that cannot be manipulated to the bottom of the scrotum without undue tension on the spermatic cord. A normally descended testis resides spontaneously in the lower scrotum. Cryptorchidism can be unilateral or bilateral. The positions of the undescended testis can be divided into those arrested in the line of normal descend (Intra-abdomina, canalicular, superficial inguinal pouch and prescrotal), and those in truly ectopic positions (pubo-penile, femoral, perianal) which are rare. Isolated cryptorchidism is the most common congenital anomaly of the male genitalia. The history of treating for cryptorchidism dates back to more than 200 years ago. Attempts at surgical correction of the undescended testis began in the early 1880s, culminating in the first successful orchiopexy by Thomas Annandale in 1877.

Cryptorchidism can be treated with hormones, which in general gives results less than 30% [3] and with operation in which depending on the location of the testes, skills of surgeon and timing of surgery, complication are less than 5% [4]. At present there are no accurate data available as to whether orchidopexy in early infancy reduces the risk of subsequent testicular cancer, but when looking at all men with testis tumor, a relative risk for those with a history of unilateral cryptorchidism is 15-fold or 33-fold for bilateral undescended testes, with the risk of cancer being highest with the intra-abdominal testes [5, 6, 7]. In this pathology (cryptorchidism) except the position of the testis there are no other symptoms, there is no pain that refers patient to the doctor.

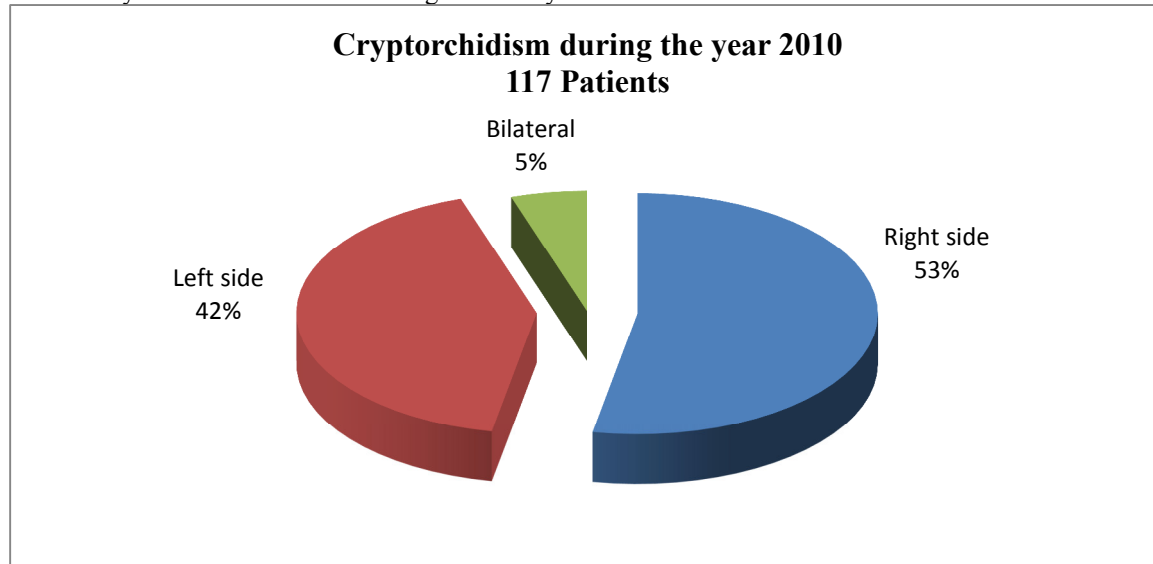
In the 50s it was preferred that the operation should be performed around puberty, modern approach prefers operation from 6 month until 2 years after birth. First sign of damage to the testes are identified by pathology examination after 6 month of age [8]. This fore is crucial awareness of parents and updating staff of primary care level with newest trends on treatment. Treatment of cryptorchidism is based on the assumption that early intervention will prevent secondary degeneration of the testes caused by high temperature to which the undescended testes are exposed. The scrotal testis, normally positioned testes is 3°C to 4°C cooler than the intra-abdominal core temperature [9, 10].

### Results and Discussion:

The survey of our patients began in 2010 and continued through the 2013, during this time 523 patients were

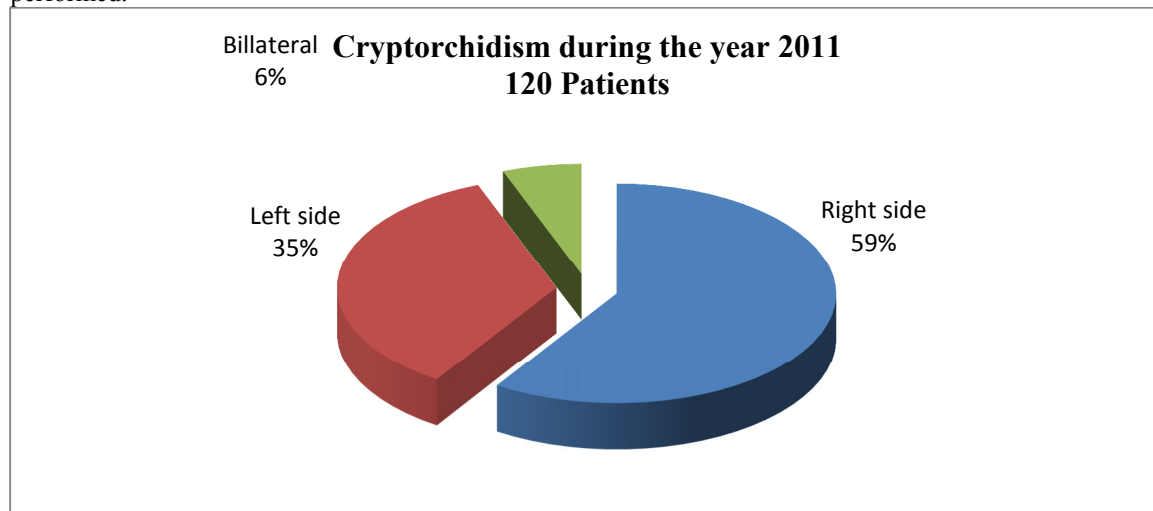
operated, graph1, 2, 3, 4, 5. Most of them were referred to pediatric surgery department after systematic controls in the kindergarten and schools throughout the country. In our clinic patients with cryptorchidism are discharged on the same day of operation. With the regular visit 3 months after the operation.

In 2010 there were 117 patients operated, 62 of them had cryptorchidism on the right side, 6 were bilateral and 49 of them were left sided. In 3 patients orchiectomy was performed due to degenerative changes that destroyed testicular tissue. Mean age was 6.5 years old.



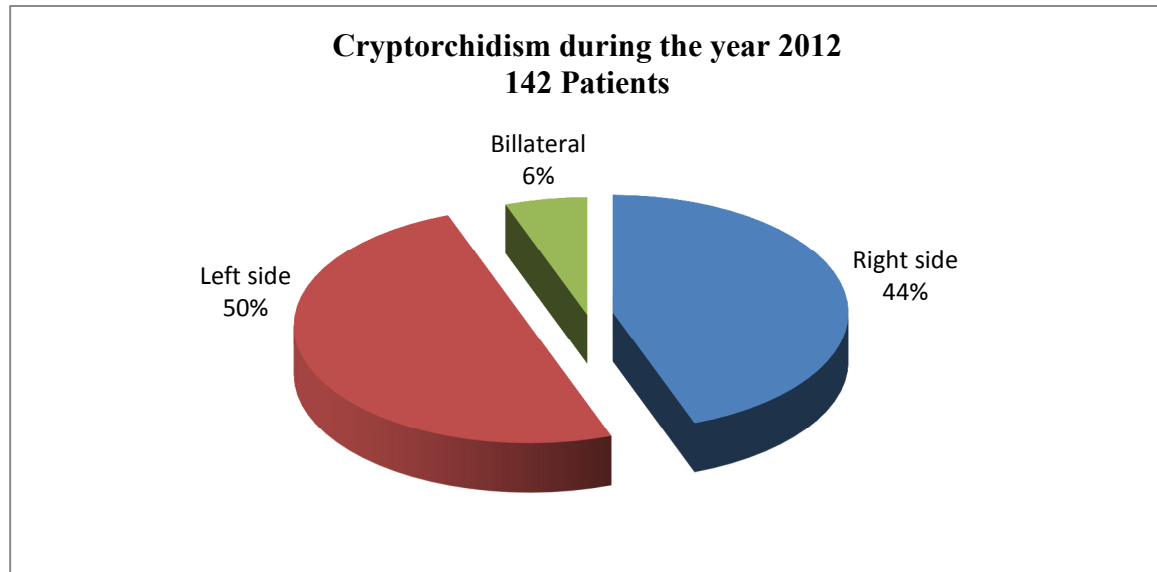
Graph 1. In percentage: 53% were right sided cryptorchidism, 42% were left sided and bilateral Cryptorchidism was encountered in 5% of patients.

In 2011 were operated on in total 120 patients, 71 were right sided cryptorchidism, 42 left sided and 7 were bilateral. Mean age of the patients was 6.1 years old. Due to degenerative changes 4 orchiectomies were performed.



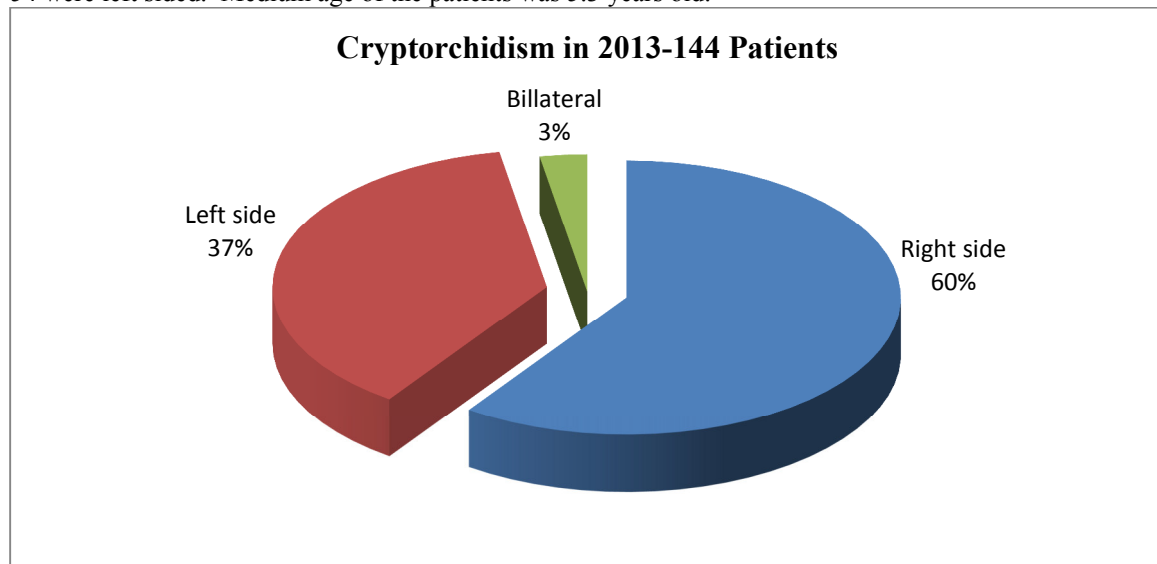
Graph 2. In percentage: 59% were right sided, 35% on the left side and 6% were bilateral.

In 2012 were 142 patients in total with medium age of 5, 7 years old. Out of these, 63 were right sided cryptorchidism, 8 were bilateral, and 71 were left sided. Due to degenerative atrophy of testis 10 phunculo-orchiectomies were performed from which 3 on the right side and 7 on the left side.



Graph 3. In percentage: 44% right side, 50% left side and 6% bilateral.

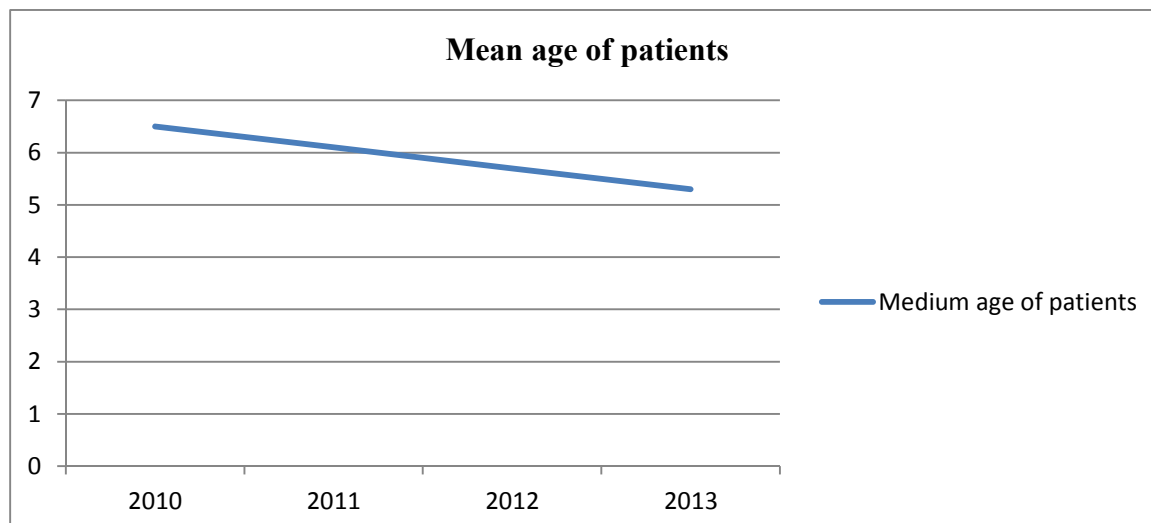
In 2013 a total of 144 patients were operated on, out of whom 86 were right sided, 4 were bilateral and 54 were left sided. Median age of the patients was 5.3 years old.



Graph 4. Cryptorchidism expressed in percentage, during the year of 2013.

Due to degenerative changes of the testis 5 orchiectomies were performed.

Median age of patients operated on, in 2010 was 6.5 years old, in 2011 6.1 years old, 2012 5.7 and in 2013 5.3 years old.



Graph 5. Mean age of patients in respective years; 2010, 2011, 2012, 2013.

### Conclusion:

As we can see from the chart above the mean age is in decline, but we are still far away from our goal that the patients should be operated from 6 month to one year old. The number of atrophic testes encountered intraoperative is high. Postoperatively there were no complications reported.

This study had helped to intensify the awareness programs in rural areas. In 2016 we started new study analyzing mean age and the first reports are encouraging.

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