

TESTICULAR TORSION: CAUSATIVE FACTOR IN DELAYED MANAGEMENT

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ABSTRACT

Objective: Analyzing the factors causing delays in the management of patients with testicular torsion in Cipto Mangunkusumo General Hospital Jakarta. **Material & methods:** This research is a retrospective research using questionnaire from patients as primary data and from Cipto Mangunkusumo General Hospital medical records or urologic reports as secondary data from 1st January 2011 to 30th April 2015. **Results:** 4 patients diagnosed with left testicular torsion admitted to hospital with >4 hours onset (as a prehospital factor). 3 of 4 patients were adult, who came with left testicle pain. The minimum VAS score perceived is 2. 3 of 4 patients had 540° medial left testicle rotation intraoperatively while all patients left testicles were unvital. **Conclusion:** Further examination is required to diagnose testicular torsion in adult-geriatric. Non-specific complaints, such as lower abdominal pain or painful testicles and mild pain in scrotum were some of the most important factors, thus causing delays in testicular torsion management. However, a comprehensive education to all health workers, especially for doctors is still required, because the complaints of pain in patients with testicular torsion does not always appear acutely. This becomes important for early identification of patients with testicular torsion, in order to prevent delay in management.

Keywords: Orchidectomy, urological emergency, testicular torsion.

ABSTRAK

Tujuan: Menganalisa faktor-faktor yang menyebabkan penundaan penanganan pasien dengan torsio testis di RSUPN Cipto Mangunkusumo (RSCM) Jakarta. **Bahan & cara:** Penelitian ini merupakan penelitian deskriptif retrospektif dengan melihat data sekunder dari rekam medik RSCM atau status khusus urologi pasien Departemen Urologi FKUI-RSCM kurun waktu 1 Januari 2011 – 30 April 2015 dan memberikan beberapa pertanyaan kepada pasien. **Hasil:** 4 pasien yang didiagnosis dengan torsio testis kiri datang ke rumah sakit dengan awitan. 4 jam (sebagai faktor pra rumah sakit). 3 dari 4 pasien adalah dewasa, datang dengan nyeri testis kiri. Nilai minimal VAS adalah 2. 3 dari 4 pasien didapati rotasi medial 540° di testis kiri intraoperasi sementara seluruh testis kiri pasien didapatkan tidak vital. **Simpulan:** Dibutuhkan kecurigaan yang lebih dalam mendiagnosis torsio testis pada usia dewasa-tua. Keluhan yang non spesifik, seperti nyeri abdomen bawah atau nyeri testis dan skrotum ringan menjadi salah satu faktor yang paling penting, sehingga menyebabkan keterlambatan penanganan torsio testis. Bagaimanapun, edukasi menyeluruh kepada seluruh tenaga kesehatan, khususnya dokter tetap diperlukan, mengingat keluhan nyeri pada pasien torsio testis tidak selalu muncul secara akut. Hal ini menjadi penting dalam identifikasi awal pasien dengan torsio testis, sehingga tidak terjadi keterlambatan penanganan.

Kata kunci: Orkidektomi, urologi emergensi, torsio testis.

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INTRODUCTION

Testicular torsion is an urological emergency in the areas that require exploration of the scrotum immediately.¹ Patients usually present with severe acute scrotal pain. Despite this, patient may experience mild complaints, chronic, or even without scrotal pain, a pain in the abdomen and groin.

Trauma may be a trigger for testicular torsion.² Epidemiology of testicular torsion in men aged less than 25 years is 0.00025% (1: 4000).³ Early identification and detorsion will prevent testicular atrophy and preserve functions. Orchidopexy within 4 hours will result in complete viability of the testis. According to Rampaul and Hosking, after 24 hours, said modalities detorsion and orchidopexy will not

affect the viability of the testicles (testicular atrophy and necrosis). The cause of testicular torsion, which often occurs in children, is usually are bell-clapper deformity. Bell-clapper deformity occur in both testicles, so contralateral orchidopexy must be performed during exploration.⁴

The purpose of this paper is to analyze the factors causing delays in the management of patients with testicular torsion in Cipto Mangunkusumo General Hospital Jakarta, so manual detorsion (period <4 hours) does not result in complete viability of the testicles. Factors that can be identified are ignorance of the patient and the family of the signs and symptoms of testicular torsion (pre-hospital factors) and the physician or medical workers do not recognize the signs and symptoms of patients with early stage testicular torsion (hospital factor).

OBJECTIVE

Analyzing the factors causing delays in the management of patients with testicular torsion in Cipto Mangunkusumo General Hospital Jakarta.

MATERIAL & METHODS

This research is a descriptive, retrospective research using questionnaire from patients as primary data and from Cipto Mangunkusumo General Hospital medical records or urologic reports as

secondary data from 1st January 2011 to 30th April 2015.

This is a descriptive research. This research was held in Department of Urology, Cipto Mangunkusumo General Hospital from 2011 to 2015.

This research used total sampling, with all patients coming to Cipto Mangunkusumo General Hospital and diagnosed with testicular torsion from 1st January 2011 to 30th April 2015 included as sample. The inclusion criteria is testicular torsion patients admitted to Cipto Mangunkusumo General Hospital and the exclusion criteria is incomplete medical record.

Data were collected as primary data and secondary data such as questionnaire and medical records or special status for urology patients at the Department of Urology Universitas Indonesia Faculty of Medicine-Cipto Mangunkusumo General Hospital.

Data analysis was performed within 3 steps, 1). Editing – Checking the completion of data within medical record, 2). Coding – Giving marks to data which fulfilled inclusion and exclusion criteria, 3). Tabulation – Data insertion toward existing table.

RESULTS

Patient's average age in this research is (n=4) 28 years old. All patients with testicular torsion is treated by orchidectomy on torsion side and orchidopexy contralaterally (n=4, 100%).

Table 1. Research results.

Age	Characteristic	Pre Hospital Factor	Hospital Factor	Diagnosis and accompanying abnormality
16 yo	Left testicle pain (ipsilateral) VAS 2 sometime comes	Admitted to hospital with 1 week initiation (>4 hours)	None	Left testicular torsion
45 yo	Lower abdominal pain VAS 2 -3 sometime comes, mass gradually bigger in left scrotum	Admitted to hospital with 2 weeks initiation (>4 hours)	USG → left testicular torsion testis kiri, left hidrocele, left scrotal hernia	Left Testicular Torsion Left Hydrocele
24 yo	Left testicle pain (ipsilateral) VAS 2 sometime comes	Admitted to hospital with 2 weeks initiation (>4 hours)	None	Left testicular torsion
26 yo	Left testicle pain (ipsilateral) VAS 2 sometime comes, History of corrected left Undescended testis (UDT)	Admitted to hospital with 3 weeks initiation (>4 hours)	Analgetic without continous treatment	Left testicular torsion Left UDT

Table 2. Patient's intraoperatif findings.

Age	Intraoperatif Findings
16 yo	Left testis is not vital, rotated to medial (540°)
45 yo	Left testis is not vital, rotated to medial (540°), left hydrocele, hernia is not found
24 yo	Left testis is not vital, rotated to medial (540°)
26 yo	Left testis is not vital, rotated to medial (360°)

DISCUSSION

Testicular torsion is an acute disorder of the scrotum, with symptoms of edematous acute pain that causes the reduction or cessation of blood flow to the testicles so that it becomes one of the factors that triggered the post-necrotic testicular torsion. Some literatures mentioned that 4 hours is the time limit after the findings of viable testicular after manual detorsion. In this study, patients came to the hospital with complaint within > 24 hours onset to the hospital. The complaint was intermittent lower abdominal pain with VAS score 2-3 (1 patient), and ipsilateral testicular pain with VAS score 2 on other patients. This condition was contrasts with the typical complaints occur in testicular torsion, which is gradualacute scrotal pain; thus the patient or the patient's family did not immediately go to the hospital. Complaints identification in patients by doctors or medical staffs to patients in this paper is quite good (3 of 4 patients were diagnosed with testicular torsion).

The most common symptom or physical finding is testicle and no cremaster reflex. But, these reflexes could not rule out testicular torsion, normal reflexes showed good blood flow to the testicles, but does not describe testicular perfusion. Because history and physical examination alone could not always be used in the diagnosis of testicular torsion, diagnosis of testicular torsion is assisted by several investigations: a) urinalysis (pyuria and/or bacteriuria may indicate an epididymitis or hematuria in urinary tract stones), and b) testicular Doppler ultrasound is used to visualize the composition of the testicles and intraparenchymal testicular blood flow. Parameters evaluated include a decrease or non-visible wave Doppler, the parenchymal heterogeneity and/or echotexture which distracted of the affected testicle compared with the contralateral testicle. The Doppler ultrasound sensitivity in confirming inadequate blood flow in testicular torsion cases is 63-90%.⁴

In any patient with inguinal pain, lower abdominal pain, or pain in the scrotum which could not be enforced by history and physical examination, one should perform additional investigations such as urinalysis and testicular Doppler ultrasound to rule out testicular torsion. In this study, the complaint was left testicular pain. Only one patient examined with ultrasonography. To rule out testicular torsion, Doppler testicular ultrasonography can be performed if the patient still complaining lower abdominal pain, inguinal pain and mild scrotal pain.

Testicular exploration also performed in some cases. Jefferson et al, suggests there is still torsion found intraoperatively after manual detorsion.⁵ In the operating room, once the patient is anesthetized, torsioned testicle can be explored through a hemiscrotal incision, transverse or mid-line. Detorsion performed intraoperative and the report must note the rotation degree, the testicles size and the bell-clapper deformity degree. Bell clapper deformity is a condition where the testicles are not fixed to the tunica vaginalis.⁶ Degrees of rotation found was 540° post-orchidectomy (38%) and 360° during testicular preservation.⁷ However, the testicular preservation should be performed if the perfusion occurs post detorsion. Although, the testicles are still vital, the operator must perform a biopsy to prove the presence or absence of necrosis. Bilateral testicular fixation is needed to prevent bell-clapper deformity, thus can cause metacronous torsion. In this paper, the data shows that 75 percent of patients had medial torsion (540°); and 25% have medial torsion (360°). It can be adjusted to other literature findings that the rotation degree obtained after orchidectomy is appropriate (540°). However, more data is needed to determine the percentage of 360° of rotation).

From obtained cases, range of patients' age were 16-46 years. All patients presented with scrotal pain with onset >24 hours. These data suggested that patients who came with scrotal pain, with onset >24 hours, exceeding a safe time to do testicular salvage, which resulted in patients underwent orchidectomy and contralateral orchidopexy. The results can be related to the lack of awareness in patients and the families about the abnormalities (all patients come to the hospital with complaints of onset > 24 hours).⁸ However, this paper noted that the patient's perceived pain complaints are not typical and not severe (VAS 2-3).

A research in Korea by Seng et al. explained that about 25% of patient with testicular torsion

were admitted to the hospital with a gradual scrotal pain as a complaint. On the other hand, age can be a factor which influences testicular salvation rate. This statement was submitted as a respond because there are more rare testicular torsion incidence in adult-geriatric with a heavier complaint.⁹ Therefore, further examination is needed to diagnose testicular torsion in adult-geriatric. Despite this, education of testicular torsion from medical workers (doctor or nurse) to the patient and the family is needed so the complaint can be detected earlier. The outcome is related to the procedure (manual detorsion will give a good result in less than 4 hours of testicular torsion). The accompanying abnormality found in our patient is UDT (Undescendant) left testicle and left hydrocele.¹⁰

In New Zealand, a study by Johnston et al, reveals that the cause of treatment delay in testicular torsion management is prehospital factor. The typical acute scrotal pain will be perceived in testicular torsion, but research revealed that patients under 14 y.o. admitted to the hospital with orchidectomy as the outcome. This happened because children under 14 y.o. found it difficult to explain the complaint. The conclusion in there search is similar as the conclusion of this study, namely, education for the community must be upgraded.¹¹

CONCLUSION

Testicular torsion is an acute scrotal abnormality which can cause testicular blood flow to decrease or ceased, which can be a triggering factor for post torsion testicular necrosis. Despite this, lower abdominal pain or scrotal pain VAS 2-3 can still be perceived by the patient. Therefore, further examination is required to diagnose testicular torsion in adult-geriatric. In this paper, orchidectomy and contralateral orchidopexy performed in all patients came with onset more than 4 hours (the gold standard of testicular salvation rate). Non-specific complaints, such as lower abdominal pain or mild pain in

testicles and scrotum become one of the most important factors, thus causing delays in testicular torsion management. However, a comprehensive education to all health workers, especially for doctors is still required, because the complaints of pain in patients with testicular torsion does not always appear acutely. This becomes important in the early identification of patients with testicular torsion, in order to prevent delay in management.

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