

Evaluation of the Practice of Thromboprophylaxis in Urological Surgery

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DOI: [10.36348/sjmps.2020.v06i06.007](https://doi.org/10.36348/sjmps.2020.v06i06.007)

| Received: 05.06.2020 | Accepted: 15.06.2020 | Published: 26.06.2020

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Abstract

The objective of our work is to assess the practice of thromboprophylaxis in urological surgery in relation to international recommendations and to propose corrective measures. This is a prospective observational study of the practice of thromboprophylaxis in urological surgery. Carried out over a period of ten weeks. Data collection was carried out on files developed in consultation; the analysis of the results made it possible to include only the files subject to thromboprophylaxis and the comparison of these results with data from the literature to judge the conformity of the decisions of thromboprophylaxis compared to the specific recommendations. Among the 40 cases collected, one case was excluded because they relate to curative thromboprophylaxis. Compliance with the decision whether or not to initiate thromboprophylaxis concerned only 29 patients out of 39, ie decision compliance of 74.35%. Analysis of the overall thromboembolic risk showed that this risk was high in 35% of the cases. The duration of thromboprophylaxis was the judgment criterion, the compliance of which was only 63.6 3%. These results show the interest of this kind of study in order to update our protocols in accordance with the recommendations with regard to thromboprophylactic prevention, it is highly desirable to sensitize health professionals to the importance of respecting the prescription period for better patient management.

Keywords: Urological surgery; prospective study; venous thromboembolic disease; thromboprophylaxis.

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INTRODUCTION

The prophylaxis of venous thromboembolic disease (VTE) is gaining an increasingly important place in the surgical environment, since numerous studies have well established its efficacy and safety [1]. Numerous clinical guidelines for the use of thromboprophylaxis have been issued. However, thromboprophylaxis remains underused. Hence the interest in carrying out an evaluation study of the practice of thromboprophylaxis in urological surgery in order to assess compliance with international recommendations.

SUBJECTS AND METHODS

This is a prospective observational study of the practice of thromboprophylaxis in urological surgery, carried out at the Moulay Ismail Military Hospital. Data collection was carried out on file developed in consultation and for a period of ten weeks. Analysis of the results made it possible to include only the cards that were the subject of thromboprophylaxis. The analysis of the results made it possible to define the

degree of the thromboembolic risk, this degree of the thromboembolic risk took into account the risk linked to the patient and the risk linked to surgery by defining three levels of risk (low = 1, moderate = 2, high = 3). This analysis made it possible to study the conformity of the following judgment criteria for each prescription, namely; compliance with the indication for thromboprophylaxis, the appropriate choice of anticoagulant and its route of administration; the adequate schedule for the first administration, compliance with the dosages and the duration of the appropriate treatment. The results were compared to protocols based on the recommendations of the SFAR consensus conference on thromboprophylaxis in surgery. The team developed protocols respecting the recommendations, these protocols were disseminated and displayed in the operating rooms.

RESULTS

This study was carried out over a ten-week period and made it possible to identify 40 patient files. Of the 40 patients, 32 were male, and 8 were female, with a sex ratio of 4 and an average age of 60 years.

The age was divided into four groups; the representative groups of our patients were respectively small to large, the age group varying between 0-20 years with 10%; the bracket varying between 41-60 years with 20%; the age group varying from 61-80 years with 55%; the age group over 80 with 15%.

The distribution of risk factors in our patients has shown that age over 60 represents 70%, smoking

represents 25%, cancer 10.71%, bed rest and diabetes each represent 7.14%.

The interventions that were listed during this study period were mainly: Cholecystitis with 20% of cases, TRUV with 20% of cases, followed by prostatectomies with 15% of cases and NLPC 15% (Figure 1).

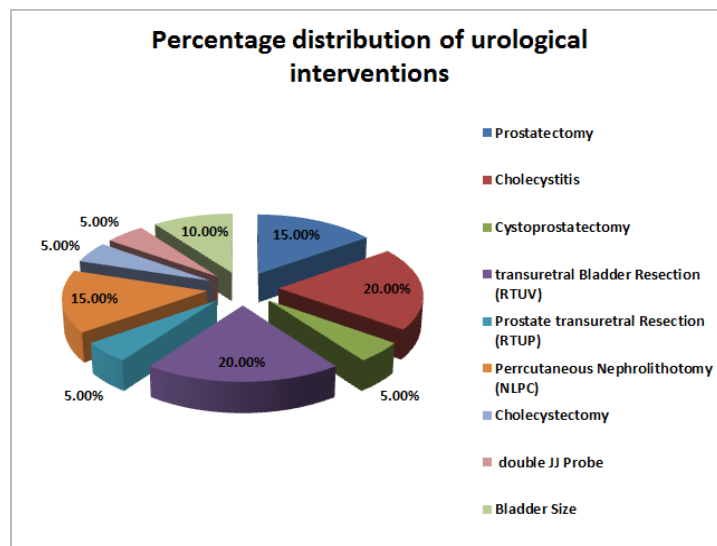


Fig-1: Percentage distribution of urological interventions

Analysis of the degree of thromboembolic risk showed that: (Figure 2)

For the risk analysis related to the patient, the high risk represented 70%, followed by the moderate risk with 15% and low risk with also 15%.

For the analysis of the risk linked to surgery, the low risk represented 55%, followed by the high risk with 25%, and the low risk with 20%.

Taking into account the two types of risk made it possible to assess the overall thromboembolic risk, so this overall risk was high in 35% of cases and moderate in 45% of cases and low in 20% of cases.

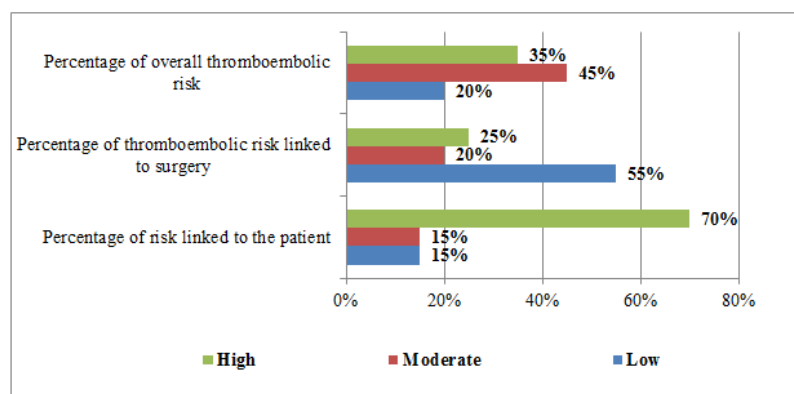


Fig-2: The distribution of the percentage of degrees of the thromboembolic risks

However, the analysis of the judgment criteria for the practice of drug thromboprophylaxis showed that (Figure 3)

11/40 files were the subject of a theoretical indication for thromboprophylaxis and 18/40 files without a theoretical indication of thromboprophylaxis

and one case was excluded because they fall under curative thromboprophylaxis.

Out of 11 cases presenting the theoretical indication for prevention, thromboprophylaxis was not prescribed by default in 2 cases,

Out of 18 cases without the theoretical indication for prevention, 8 cases benefited from excess thromboprophylaxis,

Indeed, the conformity of the decision whether or not to initiate thromboprophylaxis concerned only 29 patients out of 39, i.e. decision conformity of 74.35%.

For the compliance of the prescribed molecule, its dosage and the administration schedule, the analysis showed that: Enoxaparin was the molecule chosen and administered for thromboprophylaxis,

which constitutes the reference molecule; the conformity of the choice was 100%. The correct schedule for the first administration was compliant in 100% of the cases; the route of administration was the subcutaneous route and was followed 100% of the cases. The dosages of the anticoagulant administered were compliant in 100% of the cases (all the dosages of the anticoagulant were adapted; the weight of the patients was taken into account).

While compliance with the duration of drug thromboprophylaxis presented the major problem and was only adequate at 63.63%.

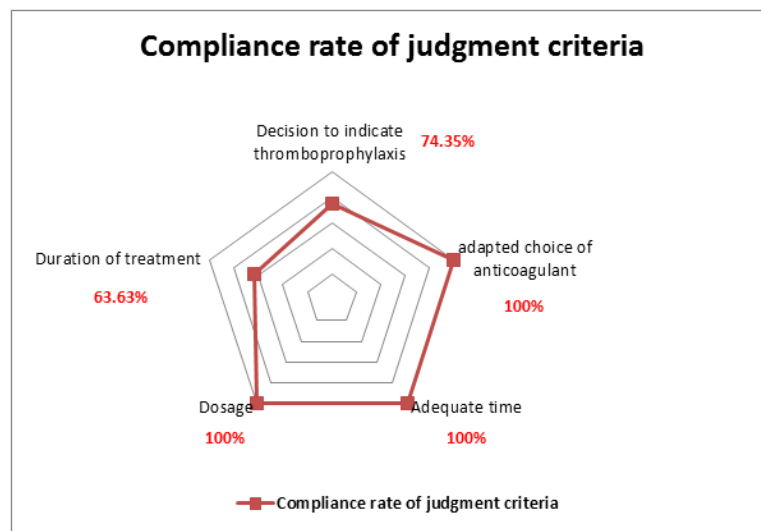


Fig-3: Compliance rate by judgment criteria

DISCUSSIONS

Venous thromboembolic disease (VTE) is a condition characterized by the formation of a clot inside a vein, whether or not associated with inflammation of the venous wall [2]. VTE is multifactorial and its risk factors, genetic and environmental, are numerous. These factors must be identified to detect subjects at risk and prevent any thromboembolic event [3]. Venous thromboembolic disease is a frequent complication in the postoperative period with an incidence of 10% to 50% in patients without prophylaxis [2]. Hence the need to apply a protocol to prevent this high thromboembolic risk in surgery, in order to reduce the mortality and morbidity associated with pulmonary embolism [4] and secondly, the reduction of deep vein thrombosis (DVT) proximal because of its close association with the incidence of pulmonary embolism and post phlebotic syndrome.

Risks linked to the patient

A set of personal, congenital or acquired risk factors has been listed by the authors. They undoubtedly increase the thromboembolic risk by adding to the specific risk of the intervention [5-7]. The

risk of VTE increases exponentially with age. After 40 years, the risk doubles every 10 years. Beyond 65, the risk increases more [8, 9]; in our study the rate of patients whose age between 61 and 80 years was 55% and that of patients whose age over 80 years was 15%. The literature also confirms that tobacco was associated with a moderate increase in the risk of thromboembolism [10]. In our study, the tobacco risk represents 25%. Plaster immobilization, forced bed rest, and lower limb paralysis are associated with an increased risk of venous thromboembolic disease [11, 12]; in our study, bed rest represents a significant risk factor with a percentage of 7.14%. However, this rate remains lower compared to that recorded by a Canadian study of 2008 where 41.6% of the patients were bedridden [13]. The presence of cancer roughly increases the risk of venous thromboembolism by eight, it is the third cause of VTE [14], anticancer therapies also favor the appearance of thrombosis, chemotherapy multiplies by 5.6 the risk of thromboembolism venous and the number of thromboembolic events increases with the number of cycles of chemotherapy [15]; in our study, the FDR cancer represents 10.71%.

Other factors increase the risk of VTE, namely second and third generation contraceptives, respectively increasing the risk of VTE by three to four times [11, 16]. Obesity, defined by a body mass index greater than 30 kg / m², increases the risk of VTE by 1.5 to 3 times [12]. Heart and respiratory failure also contribute to an increased risk of thromboembolism [17]. For the analysis of the risk related to the patient in our study showed that the high risk represented 70% in our patients.

Risk related to surgery

Data from the literature show that surgery represents the main risk factor for VTE; it is responsible for around 15% of all cases of VTE in France [14]. The risk associated with surgery is classified into three levels according to, the SFAR; It ranges from the lowest risk to moderate or high risk [8, 18]. In our study: 20% of operations are transurethral resections of the bladder; 5% of transurethral resections of the prostate; 15% NLPC; 15% open prostate adenoma

surgery; 5% cystoprostatectomy for bladder tumor. For the analysis of the risk linked to surgery, the high risk represented 25% in our patients.

The overall thromboembolic risk (table 1)

The overall thromboembolic risk is the result of the patient risk and the intervention's own risk, this risk is classified into 3 levels: low, moderate, high [8, 18]. The low risk corresponds to minor surgery in patients under 40, who have no additional risk factor [8]. The moderate risk also corresponds to minor surgery, but in patients who have a personal risk or in patients aged over 40 even if they have no additional risk factor. The high risk corresponds to major surgery (cancer, thrombophilia or undergoing surgery for total prostatectomy or total cystectomy in elderly patients or with an additional risk factor. The overall high risk, in patients concerned by our study, was 35%. Data in the literature report a high thromboembolic risk of 49% for a French study in 2011 [19] and 57% for a Canadian study in 2008 [13].

Table-1: Degree of overall risk thromboembolic disease

Types of surgeries	Risk linked to surgery	Risk linked to the patient	Degree of overall risk of thromboembolic disease
Urology	Surgery testicle penis and urethra	Age <40 years/ no risk factor	Low
	Ureteroscopy		
	RTU prostate		
	RTU bladder		
	Annexectomy		
	Tubal Plasty		
	Emergency Cesarean		
	Breast Cancer		
Urology	Transvesical Adenectomy	Age >40 years old/, (Estrogen/progestogen, Bed rest >4 days, Varicose veins, General or localized Infection, Obesity, Post-partum	Moderate
	Nothing urethra and bladder		
	Retro peritoneal cleaning		
	Urinary Incontinence		
	Kidney Transplant		
	Breast Cancer		
	Uterine Plasty		
Urology	Total cystectomy	Progressive cancer, thromboembolic ATCD, MI Paralysis, Hypercoagulability, myeloproliferative Syndrome myéloprolifératif	High
	Total Prostatectomy		

Compliance of our preventive practices with the recommendations of thromboprophylaxis

Analysis of the results of the 39 patients included in our study revealed that the decision to prescribe or not to prescribe thromboprophylaxis according to patient risk and type of surgery was 74.35% of the total the population studied.

Data from the literature reports that a French study [20] included 89 patients, of which 47.2% of them presented a theoretical indication for thromboprophylactic treatment, prevention had been established in 95.2% of these patients, while 21.2% of those who had no theoretical indication for thrombotic prevention had received excess thromboprophylaxis.

A Canadian study in 2008 [13] collected 320 patients hospitalized in medical and surgical circles, 57% of these patients had a theoretical indication for thromboprophylaxis, the percentage of patients who had benefited from prevention had reached 83.7%, whereas less than 5% of those with no thromboembolic risk had received preventive treatment in excess.

LMWHs constitute the reference drug prevention, this molecule has been prescribed in all our patients. Thus, the compliance of the choice was 100%. It should be noted that the compliance of the subcutaneous route for administration was also 100%. The dosages administered were adapted to the weight of each for each patient, compliance was also 100%. Thromboprophylaxis has been administered in most studies until patients are discharged from the hospital (seven to ten days) [21]. We can estimate that the risk exists until the resumption of a normal ambulation. The recommended duration is seven to ten days except in the case of an oncological intervention where the duration can be extended over four to six weeks [21, 22]. In our study, 63.63% of patients received thromboprophylaxis for 7-10 days. The duration of thromboprophylactic treatment is the most important criterion for optimal management of the thromboembolic risk in a patient. Respect for the duration of thromboprophylactic treatment is well framed by international standards [18, 23] including the recommendations of the SFAR 2011. Thus, insufficient treatment exposes the patient to thromboembolic risks. In order to correct the dysfunctions and bring improvements to the prescription of surgical thromboprophylaxis, it was necessary that the written protocols be revised and disseminated for all surgical procedures. With information and awareness of medical and paramedical executives.

CONCLUSION

Today, prophylaxis of VTE in hospitals is a challenge for all practitioners interested in this disease. Prophylaxis for thromboembolic disease was only 74.35% compliant, this underscores the urgency of disseminating information on the value of thromboprophylaxis and the need to monitor the application of protocols for thromboprophylaxis.

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