



VENOUS THROMBOEMBOLIC EVENTS AND TOTAL HIP OR KNEE ARTHROPLASTY: INCIDENCE AND ASSOCIATED FACTORS

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OBJECTIVES

- Orthopedic surgery is associated with high risk of venous thromboembolic events (VTE) especially in the total hip arthroplasty (THA) or total knee arthroplasty (TKA)
- According to the literature the incidence of the VTE with pharmacological prophylaxis after THA or TKA was estimated to 0.7%¹
 ⇒ **OBJECTIVES:** to evaluate the incidence of VTE and the factors associated with a VTE after THA or TKA

METHODS

Incidence of VTE

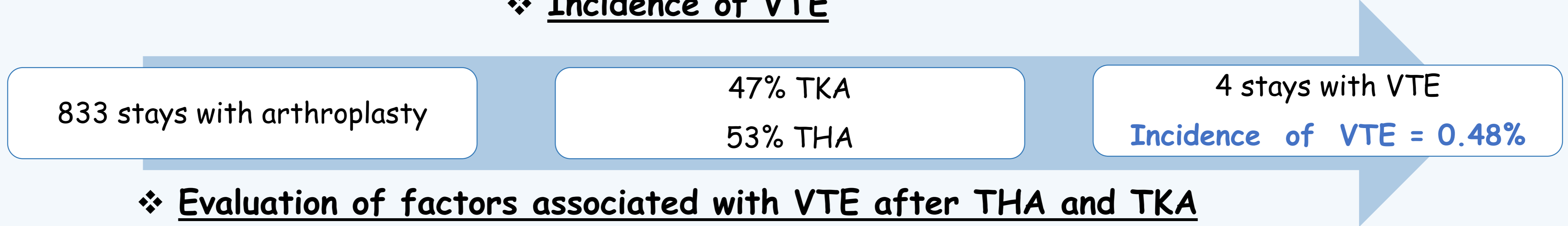
- Incidence of VTE = $\frac{\text{Number of stays of patients older than 18 years with VTE after THA or TKA}}{\text{Number of stays of patients older than 18 years hospitalized to THA or TKA}}$
- Information obtained from Diagnosis Related Groups (DRG)

Factors associated with VTE

- Demographic and medical characteristics of stays were extracted from DRG data
- Information related to the thromboprophylaxis were obtained by analyzing prescriptions of the whole stay
- Factors associated with a VTE were identified according to Fisher's exact test ($\alpha = 0.05$)

RESULTS

❖ Incidence of VTE



❖ Evaluation of factors associated with VTE after THA and TKA

Table 1. Characteristics of the total hip arthroplasty and total knee arthroplasty stays and the stays with venous thromboembolism events

Characteristics	Any arthroplasty N=833, N (%)	Venous thromboembolism events N=4, N (%)	p-value
Sex			
Men	279 (33.5)	1 (25)	0.11
Age			
Under 65	168 (20)	1 (25)	0.75
65-74	268 (32)	0	-
75-79	169 (20)	1 (25)	-
80-84	114 (14)	2 (50)	0.09
85 and over	56 (7)	0	-
Joint replaced			0.63
Total knee arthroplasty	391 (46.9)	1 (25)	-
Total hip arthroplasty	442 (53.1)	3 (75)	-
Treatments			
No thromboprophylaxis	2 (0.24)	0	-
LMWH* or UF** the first day+DAC***	802 (96.5)	3 (75)	0.14
Only LMWH*/UF**	21 (3.7)	1 (25)	0.10
LMWH* or UF** the first day+Vitamin K antagonist	3 (0.36)	0	-
Only DAC***	5 (0.60)	0	-
Comorbidities			
Cancer	28 (3.4)	0	-
Obesity	243 (29.2)	2 (50)	0.58
Renal failure	37 (4.4)	0	-
Chronic pulmonary disease	26 (3.1)	1 (25)	0.12
Heart failure	2 (0.24)	0	-
Coagulopathy	4 (0.48)	0	-

*LMWH=Low molecule weight heparin; **UF= Unfractionated heparin; ***DAC=Direct oral anticoagulant

P>0.05 → Factors analyzed were not associated with a VTE after TKA and THA

DISCUSSION/CONCLUSION

- ❖ Incidence of VTE was low in our hospital in comparison to the literature
 - ❖ In this study, factors analyzed (sex, age, joint replaced treatments, comorbidities) were not significantly associated with a VTE
 - ❖ Several reasons could explain this low incidence of VTE:
 - ❖ Prescriptions were always performed by senior physicians
 - ❖ Protocols of thromboprophylaxis are standardized according to patients' characteristics
 - ❖ Thromboprophylaxis recommendations were respected
- Prescription errors are minimized**

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