

Venous Thrombosis of Lower Limbs at the National Reference Teaching Hospital of Ndjamen

Abdel-madjid Zakaria¹, Adam Ahamat Ali², Yayakichiné Mahamat¹, Abdelkerim mahamat Aboubakar¹, Alsser Adam Soha¹, Kaya Aristide¹, Toure Ali Ibrahim³

¹Cardiology Department, Reference National Teaching Hospital, N'Djamena, Chad

²Cardiology Department, Renaissance Teaching Hospital, N'Djamena, Chad

³Cardiology Department, Amirou Boubacar Teaching Hospital, Niamey, Niger

*Correspondence:

Abdel-madjid Zakaria Zakaria, Cardiology Department, Reference National Teaching Hospital, N'Djamena, Chad, E-mail: aboutingu@yahoo.fr / aboutingui2@gmail.com

Received: 03 September 2021; Accepted: 01 October 2021

Citation: Zakaria AZ, Ali AA, Mahamat Y, et al. Venous thrombosis of lower limbs at the National Reference Teaching Hospital of Ndjamen/chad. *Cardiol Vasc Res.* 2021; 5(5): 1-4.

ABSTRACT

Introduction: venous thrombosis is a public health problem in developing countries.

Materials and Methods: This is a prospective study carried out in the cardiology department of the National Reference Teaching Hospital of N'Djamena. It spans a period of 02 years, from January 2019 to December 2020 with a 4-month follow-up for the last patients.

Results: we counted a total of 49 cases of deep vein thrombosis out of 1983 patients hospitalized in the department, either a hospital prevalence of 2.47%. Our study population was dominated by the female sex (59.2%) with a sex ratio (M/W) of 0.69. The most representative age groups are those of 55-65 years old (37.0 %); 35-45 years old (26.5%) and 45-55 years old (16.0%) with an average age of 49.7 years \pm 13.94 on extremes ranging from 25 to 86 years old.

Keywords

Deep vein thrombosis, underdevelopment, Chad.

Introduction

Venous thromboembolic disease (VTE) is a health problem worldwide, affecting 78 to 137 million people per year [1]. Venous thrombosis of the limbs (VT) includes deep and superficial venous thrombosis. The annual incidence of the disease varies little from one country to another in Africa [2-4]. In Africa, it was known to be rare, but recent studies show a frequency varying between 0.9 - 2.2% [5]. This trend could be explained by the improvement of the technical platform, the change in lifestyle and the interest that this pathology arouses among practitioners. In Chad, few studies focus on this subject. This is why, we have set ourselves the goal of understanding the epidemiological, clinical, paraclinical, therapeutic and evolutionary aspects of deep vein thrombosis.

Materials and Methods

This is a prospective study carried out in the cardiology department of the National Reference Teaching Hospital in N'Djamena. It spans a period of 02 years, from January 2019 to December 2020 with a 4-month follow-up for the last patients. We included in our study all patients of both sexes who had deep venous thrombosis of the lower limb during the study period and who agreed to participate in the study. We did not include in our series all the patients hospitalized for other cardiovascular pathologies and those who did not agree to participate in the study. We have studied the epidemiological, clinical, para-clinical, therapeutic and evolutionary aspects. The consent of each patient was obtained verbally.

Results

During our study, we counted a total of 49 cases of deep vein thrombosis (DVT) out of 1983 patients hospitalized in the

department, either a hospital prevalence of 2.47%. Our study population was dominated by the female sex (59.2%) with a sex ratio (M / F) of 0.69 (figure 1). The most representative age groups are those of 55-65 years old (37.0%); 35-45 years old (26.5%) and 45-55 years old (16.0%) with an average age of 49.7 years old \pm 13.94 on extremes ranging from 25 to 86 years old (Table 1). housewife (34.7%); retireman (16.6%) and unemployed (12.2%) were the most frequent (Table 2). The main reasons for consultation were dominated by painful swelling of the lower limbs (87.8%) and lameness (32.7%) (Table 3). Physicals clinical signs were dominated by swelling (100%), local heat (81.63%), decreased sloshing (71.42%) and Homans sign (46.93%) in our series (Table 4). Prolonged immobilization (69.4%); obesity (16.3%); recent pregnancy delivery (14.3%) and a history of DVT (12.2%) were the most common risk factors in our patients (Table 5). The comorbidities were dominated by arterial hypertension (22.4%); tuberculosis (18.4%) and HIV (14.3%) (Table 6). The majority of patients had a high Wells score, i.e. 85.7% of cases (Table 7). EKG abnormalities in our patients were dominated by sinus tachycardia (12.24%) (Table 8). D-dimers were positive in all patients. Venous Doppler ultrasound revealed venous thrombosis of the left pelvic limb in 59.2% of cases, venous thrombosis of the right pelvic limb in 38.8% of cases and bilateral deep vein thrombosis in only 2.0% of cases. The most affected venous territories were the common femoral vein (30.6%), the popliteal-femoral venous territory (14.3%) and the popliteal vein (12.2%) (Table 9). In our study, all patients had benefited from low molecular weight heparin at a relay curative dose with anti-vitamin K (AVK) (acenocoumarol (69.4%) and fluindione (30.6%)) as well as compression stockings. Only 12.2% of cases had a compression bandage before wearing the compression stockings. The outcome was favorable in 93.90% of cases versus 6.10% of deaths (Figure 2). However, there were some complications including post-phlebotic disease (10.2%), pulmonary embolism (8.10%), extension of thrombosis (6.10%) and accidents at AVK (4.08%). There was a statistically significant relationship between death and diabetes (Chi-square = 8.808 and P = 0.003). 65% of our respondents had a stay of more than 15 days (Figure 3).

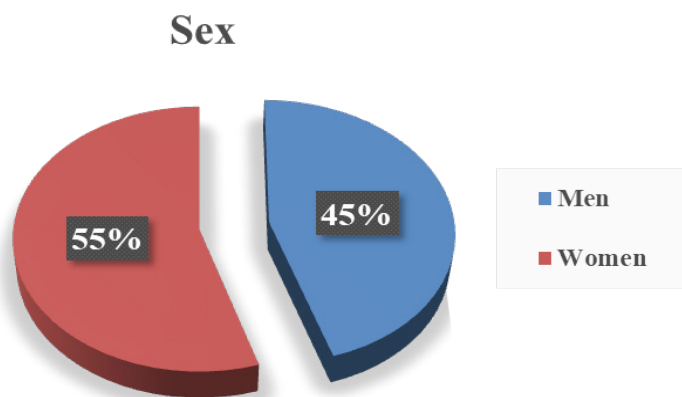


Figure 1: Distribution of patients by sex.

Table 1: Distribution of patients by age group and sex.

Profession	Patients	Percentage (%)
Merchant	6	12.2
Executive secretary	2	4.1
Teacher	1	2.0
Cook	2	4.1
Dressmaker	4	8.2
Driver	1	2.0
Retiremen	8	16.3
unemployed	8	16.3
Housewife	17	34.7
Total	49	100.0

Table 2. Distribution of patients by profession.

Age range (years)	Men		Women		Total	
	N	%	N	%	N	%
25-35	1	2,0	5	10,2	6	12,2
35-45	5	10,2	8	13,33	13	26,5
45-55	2	4,0	6	12,25	8	16,3
55-65	10	20,4	8	13,33	18	37,0
65-75	0	0	2	4,1	2	4,0
75-85	1	2,0	0	0	1	2,0
85-95	1	2,0	0	0	1	2,0
Total	20	40,6	29	53,2	49	100

Table 3: Distribution of patients according to the reason for consultation.

Reason for consultation	Patients	Percentage (%)
Painful swelling	43	87.8
Lameness	16	32.7

Table 4: Distribution of patients according to physicals clinical signs.

Physicals clinical signs	Patients	Percentage (%)
swelling	49	100
Local heat	40	81.63
Homans sign	23	46.93
Decrease sloshing	35	71.42

Table 5: Distribution of patients according to risk factors of venous thromboembolic disease.

Risk factors	Patients	Percentage (%)
Immobilization	34	69.4
Obesity	8	16.3
History of deep vein thrombosis	6	12.2
Recent pregnancy delivery	7	14.3
Erysipelas	4	8.2
Cancer	4	8.2
No factor	4	8.2
Recent surgery	2	4.1
Trauma	3	6.1
Fracture	1	2.0
Contraception	1	2.0

Table 6: Distribution of patients according to comorbidities.

Comorbidities	Patients	Percentage (%)
High blood pressure	11	22.4
Tuberculosis	9	18.4
HIV	7	14.3
Diabète	6	12.2
Renal faillure	6	12.2
Stroke	2	4.1

Table 7: Distribution of patients according to clinical probability score of wells.

Wells score	Patients	Percentage (%)
low	3	6,12
Intermediate	4	8,16
high	42	85,7

Table 8: Distribution of patients according to EKG Abnormalities.

EKG abnormalities	Patients	Percentage (%)
Left ventricular hypertrophy	4	8,16
Atrial fibrillation	1	2,04
Tachycardie sinusale	6	12,24
No abnormalities	38	77,55
Total	49	100

Table 9: Distribution of patients according to venous doppler ultrasound.

Venous territory	Patients	Percentage (%)
Iliac	1	2.0
Femoral	17	34.7
Popliteal	6	12.2
Tibial	9	18.36
Femoro-iliac	3	6.1
popliteo-femoral	9	18.36
Surro-popliteo-femoral	4	8.2

Table 10: Répartition des patients selon les facteurs de risque et la survenue des décès.

Risksfactors	Décès		
	N	Khi ²	P
History of deep vein thrombosis	6	0,446	0,504
Diabete	6	8,808	0,003
Cancer	4	0,284	0,594
Immobilization prolonged	34	1,956	0,162
Post partum	7	0,533	0,466
Obesity	8	0,677	0,411
Renal failure	6	1,323	0,25
Tuberculosis	9	0,719	0,396

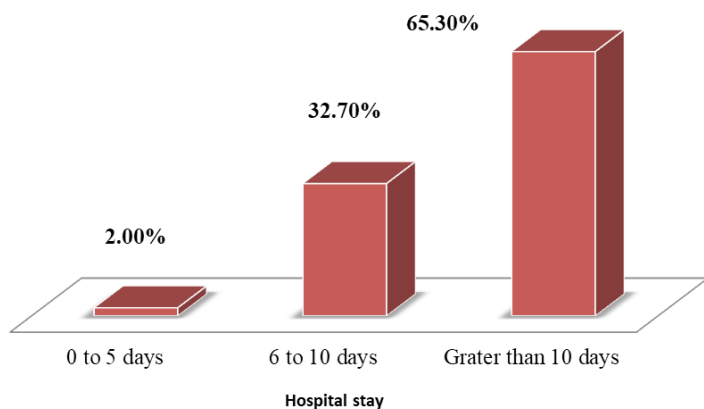


Figure 2: Distribution of patients according to hospital stay.

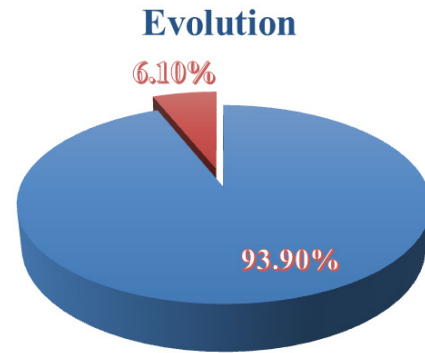


Figure 3: Distribution of patients according to complications.

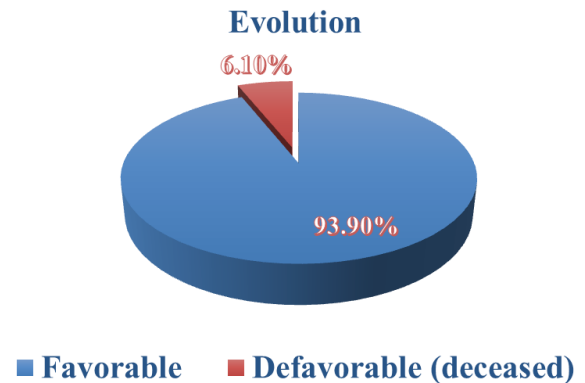


Figure 4: Distribution of patients according to evolution.

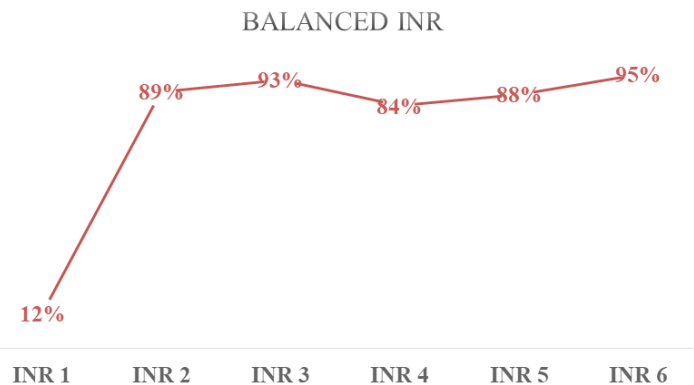


Figure 5: Distribution of patients with balanced INR.

Discussion and commentary

Long assimilated to a pathology in northern countries, venous thrombosis is an increasingly frequent pathology in tropical Africa [6], thanks to improvements in the technical platform. Its hospital prevalence was 2.47% in our study. This corroborates with the result of KOFFI et al. [7] in Ivory Coast in 2008, which found a hospital prevalence of 2.34%. This figure is also close to that of CISSOKO Y et al. [8]. In Mali in 2020, this found a prevalence of 2.2% in patients infected with HIV. The female sex (59.2%) was the most common with a sex ratio (M/W) of 0.69 in our study. The same observation was made by KOFFI et al. [7], OndzeKafata et

al. [9] in Brazzaville in 2012 with a sex ratio respectively 0.29 and 0.57. The patients were relatively young in our series, with a mean age of 49.7 years \pm 13.94 over ranges ranging from 25 years to 86 years old. KONNI et al. [4] in Cameroon in 2004 had found a similar result (48 years old) on the other hand KOFFI et al. [7] had found a mean age a little lower than ours (43 years old). House wife (34.7%); retiremen (16.6%) and unemployed (12.2%) were the most frequent socio-professional categories in our study. Unlike ours, KOFFI et al. [7] find women working in orthostatism (50%) followed by sedentary women (38%) as the most important socio-professional categories. This could be explained by the fact that prolonged immobilization is a risk factor most found in our study and chronic venous insufficiency favored orthostatism as the risk factor most encountered in the series by KOFFI et al. [7]. Symptomatically, painful swelling of the lower limbs (87.8%) and lameness (32.7%) were the most common. the same observation was made by CISSOKO Y et al. [8] who found calf pain in 80% of cases. Vein Doppler ultrasound revealed venous thrombosis of the left pelvic limb in 59.2% of cases.

KOFFI et al. [7] found a result similar to ours (61% of venous thrombosis of the left lower limb and 39% of the lower right). This could be explained by cockett syndrome which promotes venous thrombosis. Post-phlebotic disease (10.2%), pulmonary embolism (8.10%), extension of thrombosis (6.10%) and accidents at AVK (4.08%) were the most common complications. Our result is encouraging compared to that of OndzeKafata et al. [9] who found the extension of thrombosis in 40.9% of cases, post-thrombotic disease in 11.4% of cases, recurrence in 18.2% of cases, and pulmonary embolism in 20.5% of cases. A lethality of 6.10% was also noted. A significantly better figure than that of CISSOKO et al. who found lethality was 57.1% [8].

Conclusion

Deep vein thrombosis is an increasingly frequent pathology in sub-Saharan Africa in general and in Chad in particular with the

improvement of the technical platform. There are many etiological risk factors implicated in its occurrence. The best treatment remains prevention and anticoagulation.

References

1. Heit JA, Spencer FA, White RH. The epidemiology of venous thromboembolism. *J Thromb Thrombolysis*. 2016; 41: 3-14.
2. Ben Salah R, Frikha F, Kaddour N, et al. Etiological profiles of deep vein thrombosis in internal medicine settings: a retrospective study of 318 cases. *Ann Cardiol Angéiol*. 2014; 63: 11-16.
3. Sangaré I, Menta I, Ba HO, et al. Thrombophlebitis of members in the Cardiology department of CHU Gabriel Touré Teaching Hospital. *Mali Med*. 2015; 30: 3-6.
4. Konin C, Adoh M, Kramoh E, et al. Deep vein thrombosis of the lower limbs in tropical environments: Epidemiological aspects and etiological factors. *Medicine from Black Africa*. 2004; 51: 469-473.
5. George SL, Swindells S, Knudson R, et al. Unexplained thrombosis in HIV-infected patients receiving protease inhibitors: report of seven cases. *Am J Med*. 1999; 107: 624-630.
6. Bounameaux H. News 1998 of deep vein thrombosis Rev *Med. French-speaking Switzerland*. 1998; 118: 847-851.
7. Koffi J, Konin C, Harding-Tanon, et al. Epidemiological aspects of deep vein thrombosis in black African women. from a series collected at the heart institute of abidjan Rev. *Int Sc Med*. 2008; 10: 7-10.
8. Cissoko Y, Camara Y, Dicko Ms, et al. Venous thrombosis of the lower limbs in HIV-infected patients hospitalizes in the infectious diseases department of Teaching Hospital of point "G". *Remapath*. 2020; 5: 16-21.
9. OndzeKafata L, KoualaLanda C, Traore-Kissima A, et al. venous thrombosis of the lower limbs in Brazzaville: about 44 cases. *Tropical cardiology*. 2012; 135: 16-17.