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CLINICAL-EPIDEMIOLOGICAL STUDY ON PATIENTS, VICTIMS OF VENOUS THROMBOEMBOLISM DUE TO BURNS IN THE PERIOD 2020-2021 IN THE UNIT OF BURNS IN PIAUÍ

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Abstract: The patient suffering from a major burn has the risk of developing deep vein thrombosis (DVT), due to the fact that they comprise the entire Virchow triad. Although there is little research in Brazil and in the state of Piauí, evidence indicates that the incidence of DVT in burn patients is around 0.61%, and can reach 1.2% in cases of ICU admission or when the burned area exceeds 10% of the body surface. Our objective was to study the prevalence of the association between burns and thromboembolic events, comparing our results with the existing literature and identifying which factors have the greatest influence on the occurrence of these events. The results found allowed comparisons to be made with other hospital realities and to verify that the incidence of DVT in burn patients is generally low, around 3.01% in the general and pediatric population, and 4.6% in the state of Piauí, in general.
Keywords: burns, Deep vein thrombosis, Epidemiology, Piauí.

INTRODUCTION

It is known that burns are the fourth most common cause of all traumas on the planet, with an alarming prevalence in underdeveloped countries, which lack the infrastructure to minimize the incidence and optimize results. In this context, deep vein thrombosis (DVT) is included, which is a prevalent condition in patients with high percentages of burned body surface and, management considering each individual's peculiarities, directly interferes with the prognosis. Burns, particularly third-degree burns, favor the development of deep vein thrombosis (DVT), as they include the components of Virchow's triad. It is known that there are no large numbers of research in Brazil and, mainly, in the state of Piauí, but with the pertinent evidence that exists, the incidence of DVT in burn victims is around 0.61%, reaching double the

value drops to 1.2% when the patient, out of necessity, is admitted to an intensive care unit (ICU) or when the burned body surface area (SCQ) exceeds the 10% mark. Patients with 40 to 60% SCQ have the highest risks for DVT and PTE. The prevalence of venous thromboembolism (VTE) in burns of at least 50% of SCQ is estimated to reach 2.4% and result in significant morbidity and mortality for burn patients, with the majority of deaths from pulmonary embolism occurring within hours of burns. diagnosis. PTE can lead to death in 25% of patients, requiring increased attention in care centers. In the meantime, the state of Piauí can be included, which has a single burn center and, as a result, the data often does not arrive with certain precision regarding the incidents or are not notified, due to the large territorial extension of the state. or other associated sectoral conditions. Furthermore, although there is a reference center for patients suffering from severe burns, there are no relevant studies that establish prevalence and incidence relationships for VTE at the onset of trauma due to thermal injury. Therefore, due to the importance of the disorders, high morbidity and mortality rate and the scarcity of studies in Piauí, the need for a project that addresses the topic is clear, facilitating understanding of the pathology and culminating in statistical data that are of fundamental importance for development of protocols at local level for appropriate management, optimizing service time, mode and lowest financial cost, directly impacting public health.

GOALS

The objective of the work is to study the prevalence of the association between burn victims and thromboembolic events, seeking whether or not there is a relationship of implication between them, comparing the results found with those in the literature, checking for divergences or reaffirmations in them. Furthermore, it aimed to distinguish the factors that maintain a direct correlation with the prevalence of thromboembolic phenomena from those that do not directly contribute to their greater frequency and also to differentiate which factors of the pathology analyzed (burn) and which intrinsic factors of the patient (if available in the databases) has greater or lesser influence on the frequency of thrombotic phenomena.

METHODOLOGY

The project was defined as retrospective observational, being characterized by the analysis of previous data considering the prevalence of certain variables, in question, the phenomena of venous thromboembolism (VTE) secondary to burns regardless of the type. The research took place at HUT (Emergency Hospital of Teresina), specifically, in the Burns Unit, considering the period 2020-2021, under the supervision of the project Coordinator and Co-advisor. The Therapy Unit of burns (UTQ), it has 2 databases, 1 analog (handwritten) and 1 virtual. Therefore, the virtual is made up of a large table with epidemiological data that relate to the patient, in the context of clinical, laboratory and nosocomial aspects. This table was fed daily by the professors of the medical internship and by the students, as the patients progressed. In addition, there is also the analogue, which is a unit's MINUTE book, which is filled with data similar to the virtual one, but by the nursing team. Initially, the research was defined by the complement of missing data in the analogue

table and, to this end, the table was blinded by an employee from UTQ itself.

-which is not part of the investigation- through a prior request from the researchers. Missing data in the digital table were collected by the research team and delivered to the unit secretary, so that he could check whether the missing data is not present in the analog table, improving the compilation of information in the virtual table and, filling in the as complete as possible, the information could be evaluated with greater precision, obtaining the desired prevalences. Weekly, during the research period, the researchers went twice a week (Thursdays and Fridays) to the HUT, to evaluate the computed data. The information cataloged in this sector was evaluated by the researchers and the data collected was entered into the Hospital's own Exel system - there being no external source for storage - where the final spreadsheet was created with the percentages of each item analyzed, corroborating the conclusion of the research gradually. The information sought was: 1) % of the body area that was burned? 2) Did you take prophylaxis with anticoagulants? Which? 3) Did the patient receive antibiotic therapy? Which/For what? 4) Did it develop Deep Vein Thrombosis (DVT)? If so, which DVT and which diagnostic method? 5) Did the patient develop PTE? Patient information was acquired secondary to the sector's database, this way, the informed consent was waived due to the medical records and hospitalization number not being accessed, with the researchers being responsible for collecting and organizing the information only and solely within these databases. of data. The study did not distinguish between the type of thermal injury, body weight, date of admission, hospitalizations, medical discharge and age group, and at the end of the research, the prevalence of what was possible to be assessed was formulated.

RESULTS / DISCUSSION

Data from 303 patients present at the UTQ in 2020 and 2021 were analyzed, taking into consideration, the predicted temporal sample. Among the items analyzed, the following topics were listed: 01) Did you develop Deep Vein Thrombosis (DVT) (Graph 1)? If so, which DVT and which diagnostic method? None of the patients, within the time frame, developed DVT. The spreadsheet in question did not include the diagnostic method used in an attempt to indicate the aforementioned pathology. Certain patients had mentions of suspected development of pathology in the "observations" field, however, there was no development of the clinical history in the file sought, nor a description of the mechanism with which the investigation of the possible diagnosis was carried out. 02) Percentage of Body area that was burned in the patient with DVT? Due to the fact that there were no patients definitively diagnosed with DVT during the period of hospitalization in the UTQ, it was not possible to assess a precise correlation between burned body surface and DVT, and this topic was unable to be advanced. 03) Did you take prophylaxis with anticoagulant? Which one? All hospitalized patients underwent thromboprophylaxis during the period of hospitalization, independently in relation to the number of days present in the UTQ. The schemes found to carry out this form of prevention were: - Unfractionated Heparin, 5,000 IU, subcutaneously, every 12 hours, during the entire period of hospitalization; - Unfractionated Heparin, 5,000IU, subcutaneously, every 8 hours, during the entire period of hospitalization; - Enoxaparin 40mg, subcutaneously, every 24 hours, throughout the hospitalization period. 04) Did the patient receive antibiotic therapy? Which/For what?

Answer: Some patients underwent antibiotic therapy during their

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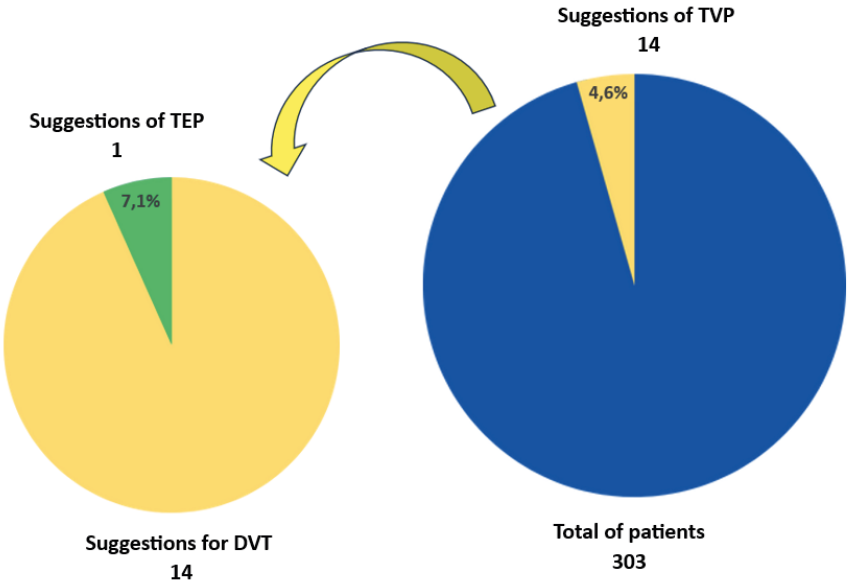
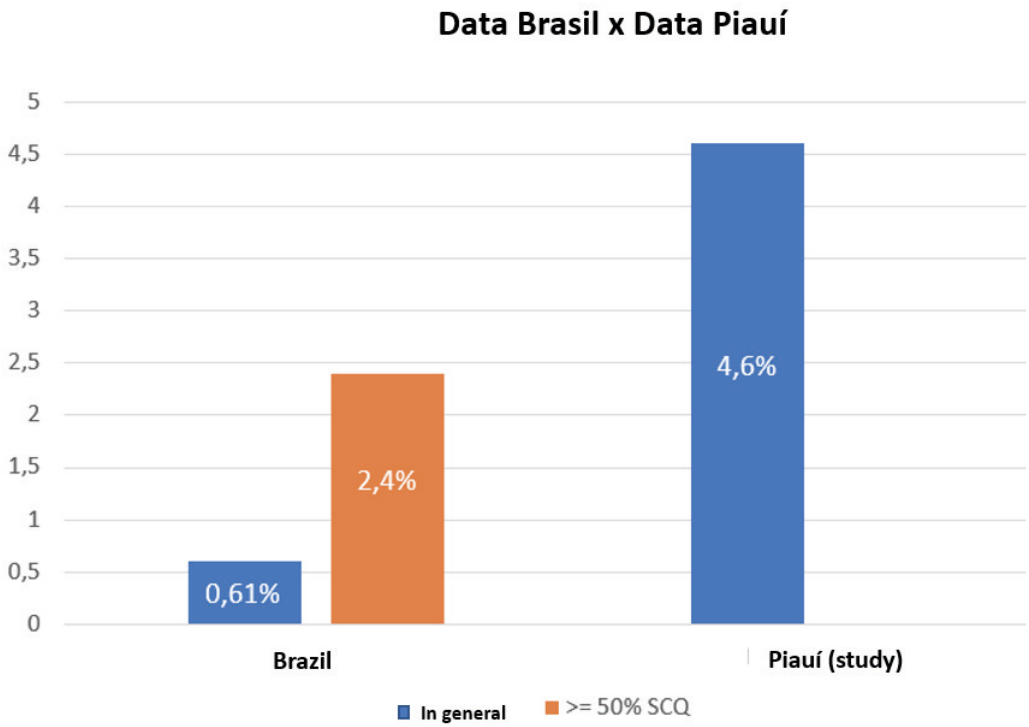


Graph 1



Graph 2

hospitalization, however, the table analyzed did not describe the secondary diagnosis for which it was necessary to use such classes of drugs;05) Did the patient develop PTE (Graph 1)? A: None of the patients, within the time frame, had a confirmed diagnosis of PTE, however, there was mention of probable progression to PTE in 01 case.

CONCLUSION

Given the results found, some inferences can be made, compared to other hospital realities. The incidence of DVT in patients suffering from severe burns, in general, is around 3.01% within the pediatric and general population, which converges to a low prevalence rate of this pathology in relation to the healthy general population, specifically in the field and section analyzed in our research, suggestive prevalence was 4.6% in the state of Piauí (Graph 2). Some factors could be analyzed in order to optimize the selection, since these are important risk factors, including: length of stay, presence of central venous access and percentage of body surface burned, with emphasis on patients who suffer from more than 40% of body surface burned, of which only the presence of central venous access was not addressed. Data analysis was of great benefit to the development of this research, although the results were lower than initially expected.

REFERENCES

1.Alturki N, Alkahtani M, Daghistani M, et al. Incidence and risk factors for deep vein thrombosis among pediatric burn patients. Burns. 2019;45(3):560-566. doi:10.1016/j.burns.2018.09.032

2.MONTES, Samanta Flor; BARBOSA, Maria Helena; SOUSA NETO, Adriana Lemos de. Aspectos clínicos e epidemiológicos de pacientes queimados internados em um Hospital de Ensino. Revista da Escola de Enfermagem da USP, v. 45, p. 369-373, 2011.

3.Padua GAC, Nascimento JM, Quadrado ALD, Perrone RP Silva Junior SC. Epidemiologia dos pacientes vítimas de queimaduras internados no Serviço de Cirurgia Plástica e Queimados da Santa Casa de Misericórdia de Santos. Rev Bras Cir Plást. 2017;32(4):550-5.

4.Pannucci CJ, Osborne NH, Wahl WL. Venous thromboembolism in thermally injured patients: analysis of the National Burn Repository. J Burn Care Res. 2011;32(1):6-12.

5.Sikora S, Papp A. Venous thromboembolism in burn patients is not prevented by che-moprophylaxis. Burns. 2017;43(6):1330-4.