STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No.	Recommendation	Page No.	Relevant text from manuscript
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	Title Pg	The Role of Anticoagulants and Antiplatelets in IVC Injuries
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	Abstract	See abstract
Introduction				
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	Pg. 2-3	Introduction Section
Objectives	3	State specific objectives, including any prespecified hypotheses	Pg. 3	We conducted a retrospective clinical study in which our hypothesis was that varied anticoagulant & antiplatelet dose regimens exist, and these regimens will result in a varied incidence of acute VTE events following IVC injury.
Methods				
Study design	4	Present key elements of study design early in the paper	Pg. 3-4 Patient and Data Collection	See item below (item #5)
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Pg. 3-4 Patient and Data Collection	We performed a retrospective observational study at our large, urban, academic, medical center and level 1 trauma center between January 1st, 2008 and December 31st, 2020. Data was curated from our institutional trauma registry and electronic medical record (EMR). The registry was queried for all patients who sustained a traumatic IVC injury requiring hospital admission. Upon EMR review, patients who were ultimately found not to have sustained an IVC injury or if they died within the index 72 hours were excluded from analysis.

				An investigation of cause of death was performed on the patients who survived beyond their index operation; however, succumbed to death within the first 72 hours. Furthermore, due to the inherent differences in underline presenting physiology, a patient was excluded from the VTE analysis if they underwent an IVC ligation (Supplemental Figure 1). We classified patients into four cohorts: full dose anticoagulation, prophylactic dose anticoagulation, prophylactic dose anticoagulation with concomitant antiplatelet agent, and no anticoagulant or antiplatelet agent. During the study period, standard of care prophylaxis was based on empiric dosing and not titrated to any measure. Patients were assigned to their cohort depending on their current treatment before an acute VTE event or hospital discharge, whichever occurred first. Therefore, if a patient received full dose anticoagulation, then the patient transitioned to prophylactic anticoagulation before they sustained an acute VTE, the patient was analyzed in the prophylactic dose regimen. Preexisting home medications were characterized. Our analysis included any available EMR data up to six months post-acute hospitalization discharge.
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case	Pg 3-4 Patient and Data	The registry was queried for all patients who sustained a traumatic IVC injury requiring hospital

		ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants	Collection	admission. Upon EMR review, patients who were ultimately found not to have sustained an IVC injury or if they died within the index 72 hours were excluded from analysis. An investigation of cause of death was performed on the patients who survived beyond their index operation; however, succumbed to death within the first 72 hours. Furthermore, due to the inherent differences in underline presenting physiology, a patient was excluded from the VTE analysis if they underwent an IVC ligation (Supplemental Figure 1); Our analysis included any available EMR data up to six months post-acute hospitalization discharge.
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case	Pg. 4 For exposures	We classified patients into four cohorts: full dose anticoagulation, prophylactic dose anticoagulation, prophylactic dose anticoagulation with concomitant antiplatelet agent, and no anticoagulant or antiplatelet agent. During the study period, standard of care prophylaxis was based on empiric dosing and not titrated to any measure. Patients were assigned to their cohort depending on their current treatment before an acute VTE event or hospital discharge, whichever occurred first.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Pg 4	See item #6 additionally- Our primary outcome was the incidence of an acute VTE event. An acute VTE included: IVC thrombus (presumed at site of injury), any DVT distal to the IVC injury (i.e. ileac veins), or PE. Only a

				patient's first acute VTE event was recorded in the analysis for time to VTE event. If a patient sustained both a DVT and a PE this was also characterized.
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	Pg. 3	Data was curated from our institutional trauma registry and electronic medical record (EMR).
Bias	9	Describe any efforts to address potential sources of bias	Pg. 10-11 of Discussion Section	Limitations sections of discussion, This was a single-center study, and the analysis was therefore limited. Operative interventions, VTE prophylaxis, and screening processes may not be the same at all other institutions. In addition, with a final cohort of 26 patients, our study was underpowered to detect a statistical significance between the various cohorts. This further limited our ability to apply more rigorous excluding parameters, to perform a multivariable analysis or to stratify patients based on a number of confounding variables, as it is plausible that a selection bias exists in our fully anticoagulated patients. Furthermore, the classification scheme is not without inherent limitations. Given that group assignments were made based on the immediate last therapy, length of therapy and missed doses were not accounted for. Such as a patient may have undergone a lengthy hospital course without receiving antithrombotic agents or sustaining an acute VTE event, and then be placed on full dose anticoagulation in the days

				preceding discharge. Consequently, this patient would be classified as receiving full dose anticoagulation. Our study also had a high prevalence of penetrating mechanisms with a patient population that was entirely male. Of note, in general female31–33 trauma patients and patients with a blunt34–36 mechanism are more likely to be of the hypercoagulable phenotype than of the hyperfibrinolytic phenotype.
Study size	10	Explain how the study size was arrived at	Pg. 4	(Supplemental Figure 1).

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Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	N/A	N/A. Statistics removed. Continuous variables were reported with median sd
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	N/A	See # 11 and #14
		(*b*) Describe any methods used to examine subgroups and interactions	N/A	N/A
		€ Explain how missing data were addressed	Pg. 6	Data was missing on four (15.4%) of the patients' home medications. However, none of these four patients had a preexisting condition warranting an antithrombotic agent.
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy	Pg. 8 of Results	Finally, one patient (3.8%) did not complete post-hospitalization follow-up.
		€ Describe any sensitivity analyses	Pg 4, 8	An investigation of cause of death was performed on the patients who survived beyond their index operation; however, succumbed to death within the first 72 hours; Of the four patients who died within the index 72 hours, one died immediately after their operation and the remainder had a re-exploratory laparotomy confirming coagulopathy as the cause of death.
Results				
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Pg. 5-6	Of the 84 patients screened from the registry query, 76 sustained an IVC injury upon EMR review. 26 patients met all the inclusion and exclusion criteria. On EMR review, eight were excluded as they did not have an IVC injury, 23 patients died in the emergency department, 22 died in the operating room and four died within the index 72 hours (Supplemental Figure 1). In addition, one patient underwent an IVC ligation.

				Four patients were partitioned into the therapeutic dose anticoagulation. Ten patients received concomitant prophylactic dose anticoagulation and antiplatelet agent. Nine patients received prophylactic dose anticoagulation. Four patients did not receive any anticoagulation or antiplatelet agents. Of the fully anticoagulated patients, two received a concomitant antiplatelet agent during part of their hospital course..And see Supplemental Figure 1 and #12
		(b) Give reasons for non-participation at each stage	Pg. 8	Loss of post-hospitalization follow-up noted above (item #12)
		(c) Consider use of a flow diagram	Supplemental	Supplemental Figure 1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Tables, Pg. 6	See tables, Overall, 26 (100.0 %) were male and the median age was 26 (interquartile range [IQR] 16 to 51). Twenty-four (92.3%) patients sustained a penetrating injury. Twenty-two (84.6%) patients sustained a gunshot wound and descriptors of their injury burden and operative details are listed in Table 1, including 24 (92.3 %) who went to the operating theatre. These 26 patients were admitted by 18 different trauma attendings. Table 2 depicts the patients' injuries, including their cava injuries. None of the patients were noted to be on an anticoagulant as a home medication; however, one patient in the prophylactic anticoagulation with a concomitant antiplatelet agent was noted to have aspirin and effient as home medications. Data

				was missing on four (15.4%) of the patients' home medications. However, none of these four patients had a preexisting condition warranting an antithrombotic agent.
		(b) Indicate number of participants with missing data for each variable of interest	(Methods) Pg. 6,8	Loss of post-hospitalization follow-up noted above (item #12) and missing data also noted in item #12
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	Pg. 4; Pg. 8	Our analysis included any available EMR data up to six months post-acute hospitalization discharge; Finally, one patient (3.8%) did not complete post-hospitalization follow-up.
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	Pg. 6-8 Tables	Reported overall incidence (pg 6-8)
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	N/A	N/A
		Cross-sectional study—Report numbers of outcome events or summary measures	N/A	N/A
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	N/A	N/A
		(*b*) Report category boundaries when continuous variables were categorized	Pg. 6, 7 and Tables	Overall, 26 (100.0 %) were male and the median age was 26 (interquartile range [IQR] 16 to 51); The median day to onset of an acute VTE event was five (interquartile range [IQR] 1 to 11). And tables
		© If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A	N/A

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Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	N/A	N/A
Discussion				
Key results	18	Summarise key results with reference to study objectives	Pg. 8-9	Traumatically injured patients often have risk factors that lend them to be hypercoagulable, rendering them susceptible to VTE events.14,15 In this retrospective study of IVC injured patients, we sought to determine the association between anticoagulation / antiplatelet status and the incidence of acute VTE events. Our results show this group to be very high risk with a 50.0% acute VTE event rate in the patients with prophylactic dose anticoagulation and in the patients who were not receiving an antithrombotic agent. On the other hand, those receiving full dose anticoagulation had a 0.0% acute VTE event rate. These novel and striking findings, should prompt the reader to consider more aggressive anticoagulation / antiplatelet treatment therapies in this high-risk population.
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Pg. 10-11	Limitation Paragraphs
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Pg. 11	The granularity of our data presented a unique opportunity to demonstrate that the patients receiving lower doses of anticoagulation / antiplatelet medications had an overall higher incidence of VTE events, all while not having any major bleeding complications in the fully anticoagulated cohort. This outcome is applicable with the understanding that the level of evidence is insufficient.

Generalisability	21	Discuss the generalisability (external validity) of the study results	Pg. 11	Our study also had a high prevalence of penetrating mechanisms with a patient population that was entirely male. Of note, in general female31–33 trauma patients and patients with a blunt34–36 mechanism are more likely to be of the hypercoagulable phenotype than of the hyperfibrinolytic phenotype.
Other information				
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Pg. 12	Funding: None.

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.