8.4 and 3.2 respectively. 30-day unscheduled readmission OR were increased with Ca/VTE (4.2), Ca (3.4) and VTE (1.9). Hospital length of stay incidence-rate ratio (IRR) were increased with Ca/VTE (4.9), Ca (2.4) and VTE (4.5).

Conclusion: Cancer increases the risk of VTE which significantly impacted on healthcare burden with increased mortality, length of hospital stay and unscheduled readmission rates. Further studies on VTE prophylaxis should be considered.

Disclosure of Interest: None declared.

PO505-TUE

A novel microfluidic device development for venous thrombus understanding

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Background: Pulmonary thromboembolism sometimes causes sudden death. Prevention is hard for lacking mechanism understanding. There are much fewer previous venous thrombus studies than arterial one.

Aims: Our aim is to extract physical elements of randomness and reproducibility of venous thrombus formation as convective reaction-diffusion system.

Methods: To meet our aim, we made a microfluidic device of silicone rubber and a cover glass to visualize and quantify the thrombus formation with spatial, time and fluid field information. The inside was fully siliconized and partly coated with collagen and temperature was controlled. Fluorescently-stained blood was flowed with venous shear rate by a pressure control pumping device. We imaged the thrombus formation by high-speed camera.

Results:

1 The length of collagen-coated part correlated with size of thrombus.
2 Temperature significantly influenced thrombus formation.
3 Temperature influenced the plasma viscosity much more than hematocrit.
4 There were some reproducible patterns in the motion and the positional relation of fibrin, platelets, hemocytes and other elements.
5 Small fluorescent particles could be observed in fluid field.

Conclusion: Basically our element technologies of microfluidics can be useful to quantify the thrombus formation with spatial, time and fluid field information. It will be helpful for understanding the mechanism of venous thromboembolism as convective reaction-diffusion system. Fluid field will be analyzed in particle image velocimetry by our imaging technology. To bring more physiological conditions, we have some improvement plans such as lining the inside with endothelial cells, designing another fluidic device of round-shaped cross section, and so on. Above technologies should be useful to develop a mathematical model for calculating venous thrombogenesis in future. We made a novel microfluidic device to visualize and quantify the venous thrombus formation. It will be helpful for understanding the mechanism of venous thromboembolism.

Disclosure of Interest: None declared.

PO506-TUE

Anticoagulants for prevention of thrombotic complications in patients on parenteral nutrition: a systematic review

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Background: Patients on parenteral nutrition (PN) for intestinal failure require central venous access, which is associated with the risk of catheter-related thrombosis (CRT) and pulmonary embolism (PE). There is poor consensus on CRT thromboprophylaxis, whilst comorbidities often represent a contraindication for anticoagulants.

Aims: The aim of this review is to systematically evaluate the effect of anticoagulation for CRT prevention in patients receiving PN.

Methods: We performed a systematic literature search. Intervention and observational studies regarding either adult or pediatric patients on PN receiving anticoagulant regimens were included. Primary outcomes were: the rates of objectively confirmed CRT, PE, and major bleeding events. Secondary outcomes were: prevalence, pharmacokinetics, and cost-effectiveness of anticoagulant agents, and rate of heparin-induced thrombocytopenia.

Results: We identified 1125 studies, of which 22 were included (7 intervention studies). None of the intervention studies showed an effect of prophylactic unfractionated heparin for primary CRT prevention, while observational studies showed heterogeneous results. No studies involved patients with acute CRT. Data regarding the rates of other complications were scarce. The prevalence of anticoagulant administration varied, ranging from 22 to 54% in studies published during the past decade.

Conclusion: The administration of anticoagulants for CRT prevention in patients on PN is not supported by evidence. Although anticoagulation is often prescribed, crucial gaps of knowledge regard efficacy and safety of anticoagulants in this specific population, as well as their pharmacokinetics and quality of treatment.

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PO507-TUE

Long-term parenteral nutrition-associated thromboembolic and hemorrhagic complications in 236 single-center outpatients

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Background: Prevalence of home parenteral nutrition (PN) in Europe is 1–13/million inhabitants. Although patients on PN require central venous access and are often anticoagulated, little information is available regarding the rates of catheter-related thrombosis (CRT), pulmonary embolism (PE), major bleeding, heparin-induced thrombocytopenia (HIT), and vena cava syndrome (VCS).