

# Blood, Sweat, and...Heparin? A Case of Refractory DIC in Metastatic Prostate Cancer

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# **INTRODUCTION**

• Acute DIC is often seen as a complication of decompensated clinical conditions such as sepsis, leukemia/lymphoma, trauma or intravascular hemolysis.

• Rarely, it can be associated with relatively asymptomatic conditions such as prostate cancer.

• DIC with excessive fibrinolysis is characterized by uncontrollable hemorrhage and is difficult to manage -- direct therapies are far and few between.



## **CASE OVERVIEW**

### HPI:

78 year old male presented to the ED with persistent epistaxis and worsening body bruising for the past 2 weeks. Otherwise, he was asymptomatic.

- Patient denies any history of easy bleeding or bruising
- ROS negative for bone pain, weight loss, night sweats

#### PMH:

- Metastatic, castrate-resistant prostate cancer, T3bNxM1
  - Metastatic to pelvis/L-spine and retroperitoneal lymph nodes
  - Disease progression despite Leuprolide/Docetaxel and Bicalutamide

## Vitals: Afebrile, **BP 97/52, HR 96**, R 16, SpO2 96% on RA

#### **Physical Exam:**

- Pleasant, elderly male speaking in full sentences
- Ongoing epistaxis from right nares
- Diffuse ecchymoses covering bilateral upper and lower extremities
- Normal cardiopulmonary, abdominal and neurologic exams

cryoprecipitate transfusions



decreased blood product utilization • Total blood products received: **101 units** 



Figure 1 – Nuclear bone scan showing worsening metastases

Table 1 – Admission labs





• Acute DIC involves concurrent, pathological activation of coagulation and fibrinolysis, resulting in excessive coagulation and bleeding.

• A rapid, consumptive coagulopathy outpaces production of normal coagulation factors. Typical lab findings are shown below:

Plt	РТ	aPTT	Fib	F-V	F-VIII	D-Dim
-	$\uparrow$	$\uparrow$		-		

•The most common causes of DIC include: sepsis, trauma, malignancy, obstetrical complications and intravascular hemolysis<sup>1</sup>.

• DIC with excessive fibrinolysis, as seen in this patient, has been reported rarely in the literature but can be associated with metastatic prostate cancer and correlates with a poor prognosis<sup>2,3</sup>.

- Uncontrolled hemorrhage remains the main cause of mortality.
- Initiation of chemotherapy in prostate cancer complicated by DIC has been correlated with increased survival.

The mainstay of management for DIC includes supportive measures while treating the underlying condition.
Direct therapies for DIC include Activated Protein C Complex and Heparin, which have been associated with decreased overall bleeding and improved consumptive coagulopathy. However, these interventions have no effect on overall mortality and are supported by weak evidence<sup>4,5</sup>.

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