Materials and Methods

A 58-year old man presented with a 2-week history of worsening shortness of breath and productive cough. A chest radiograph showed left lower lobe pneumonia and he was started on antibiotics. His platelet count decreased from 139,000 on admission to 74,000 on hospital day 5. Platelet clumps were noted on a blood sample drawn in an EDTA tube. Upon our recommendation, blood samples were drawn in tubes containing EDTA and sodium citrate and sent to the laboratory for further examination.

Results

Persistent platelet clumping was noted in the blood samples drawn in both the EDTA and sodium citrate tubes. We suspected the presence of platelet cold agglutinins and re-examined the sample from the sodium citrate tube after warming the sample. The platelet clumps were no longer noted and a diagnosis of spontaneous EDTA-independent platelet agglutination secondary to platelet cold agglutinins was made. A peripheral blood smear revealed clumps of platelets that were Giemsa stain, 600x. Note the presence of clumps in the EDTA tube and the absence of clumps in the sodium citrate tube.

Figure 1. Peripheral blood smear on blood collected in ethylenediaminetetraacetic acid (EDTA) tube. Platelet clumps are noted. Wright Giemsa stain, 600x.

Figure 2. Peripheral blood smear on blood collected in sodium citrate tube. Platelet clumps are still noted. Wright Giemsa stain, 600x.

Conclusion

Platelet cold agglutinin should be considered in the differential diagnoses when platelet clumps are encountered in a peripheral blood smear. Avoiding unnecessary diagnostic workup and the additional morbidity and healthcare costs associated with further workup makes it important to add to the existing literature on platelet cold agglutinin-induced pseudothrombocytopenia.

References