Hypofibrinogenemia is a rare bleeding disorder with a reported incidence of approximately 1:1,000,000 characterized by the deficiency or lack of fibrinogen, a key coagulation protein in clot formation. Diagnosis is based on prolonged partial thromboplastin time (PTT), prothrombin time (PT), and international normalized ratio (INR) and decreased fibrinogen levels. Most patients are asymptomatic, but are highly susceptible to excessive bleeding after minor trauma and procedures. Such that, without pre-operative lab values, patients with undiagnosed bleeding disorder can manifest serious complications peri-operatively as demonstrated in this case. This case highlights unexpected complications encountered in a pediatric patient with no prior medical history presenting for dental rehabilitation under general anesthesia. This patient demonstrated profound bleeding episodes post-operatively that required admission into the pediatric intensive care unit, and medical intervention in the form of Aminocaproic Acid and fresh frozen plasma transfusion. The patient's initial presentation was highly suspicious for atypical disseminated intravascular coagulation (DIC) due to its similar presentation to hypofibrinogenemia, elevated PT/PTT/INR and decreased levels of fibrinogen. However, following the results of a normal D-dimer and further labs, the patient was diagnosed with hypofibrinogenemia, whose mainstay treatment is replacement therapy or cryoprecipitate. Although the patient underwent a low-risk bleeding procedure, the underlying disorder of hypofibrinogenemia manifested post-operatively and was instrumental in establishing this life-saving diagnosis. Therefore, it is imperative anesthesiologists and dental providers closely monitory patients post-operatively to avoid any serious complications that can arise, and be prepared to manage them properly.