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Bleeds and clots – double trouble in a hemodialysis patient

The coagulation system is altered profoundly during renal failure. The underlying factors for these coagulation disorders suggest the changed interaction of different components of the coagulation system such as the coagulation cascade, the platelets, and the vessel wall in the metabolic milieu of renal failure. Coagulation disorders with either episodes of bleeding, or thrombosis, or both, represent an important cause for morbidity and mortality of such patients. A 68-year-old Arab lady had a history of long standing Type 2 Diabetes Mellitus. She had sustained subarachnoid haemorrhage in 1996 with no residual neurologic deficits. End stage renal disease was diagnosed in January 2009, and hemodialysis was started initially via an HD catheter, and later through right radio-cephalic Av fistula. Enoxaparin was used for anticoagulation during HD sessions. In October 2010, she was admitted with seizures and right basal ganglia hemorrhage. LMW heparin was withheld during HD. During the same admission, she developed difficult cannulation of her AV fistula, and vascular surgical evaluation showed occlusion of right cephalic vein. Left brachio-basilic AV fistula was created in the January of 2011. HD was continued with no major events. In December 2016, she required hospitalization for hematoma that developed at the time of AV fistula cannulation. AV fistula was rested for 6 weeks. In the meantime, dialysis was continued (without heparin) through a right femoral HD catheter initially, and later through a tunneled right internal jugular catheter. Three weeks later, she presented with swelling of her right leg, and the diagnosis of right lower limb deep venous thrombosis was confirmed by Doppler study. Though gradually resolving, the hematoma at the left AV fistula site was still at that point of time. In addition, the patient was noted to have thrombocytopenia on many occasions since her dialysis initiation. HIT was ruled out, as heparin was discontinued earlier. Warfarin could not be prescribed for her DVT due to recent hematoma. LMW heparin was not an option due to thrombocytopenia. In consultation with the hematologists, she was treated for the DVT, with Inj. Fondaparinux for a period of 3 months. This patient's complicated profile highlights the complex disturbance of the coagulation system which occurs in patients with chronic kidney disease, and which makes them prone to severe bleeding episodes or thromboembolic events. It is poorly understood why some patients with CKD, such as this lady, experience bleeding disorders and thrombotic events during a short period of time. Future research is needed to better understand under which conditions, patients with renal failure develop bleeding disorders, or are prone to thrombotic complications.

Biography

Dhanya Mohan currently works as Specialist Senior Registrar (Nephrology) at Dubai Hospital, Dubai Health Authority, United Arab Emirates. She completed her medical graduation from Christian Medical College, Vellore, India. She won many laurels and prizes during her program and graduated as the 'Best Outgoing Student'. She was also felicitated as Gold Medallist of her Medical University for her performance. She completed her post-graduation in Internal Medicine from the same institute and won the B. Braun award instituted for outstanding performance. She went on to complete her MRCP (UK) and Specialty Certificate in Nephrology, with her performance gaining her a special mention in the MRCP Annual Review 2010. She has been an invited speaker at nephrology conferences worldwide. Her areas of interest include chronic glomerulonephritis, peritoneal dialysis, kidney transplantation and medical education. With a keen interest in clinical research, she has published in a number peer reviewed international journals. In addition, she is a tutor at the Dubai Medical College for Girls. She enjoys teaching medical students immensely, and currently steers the training program for post-graduate residents posted in her unit.

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