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Drug Utilization Evaluation (DUE) on Enoxaparin in Venous Thromboembolism (VTE) prophylaxis for hip and knee replacement surgery

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This study aims to assess the adequacy and appropriateness of the use of chemical prophylaxis/enoxaparin in total knee and/or hip replacement (TKR and/or THR) surgery patients at National University Hospital (NUH). A retrospective drug utilization evaluation was performed for NUH patients aged ≥ 18 years old who have undergone TKR and/or THR surgery from 1st January to 31st March 2013 and excluded foreigners not residing in Singapore. The study indicators included compliance/non-compliance of chemoprophylaxis/enoxaparin prescribing patterns to NUH Venous-Thromboembolism (VTE) Prophylaxis guidelines. Efficacy and safety related clinical outcomes in terms of VTE and hemorrhagic events respectively in a 3-months follow-up period post surgery were also measured. Data for a total of 82 patients were collected and analyzed. Chemoprophylaxis prescribing patterns for only 46 (56.1%) patients were compliant to NUH guidelines in terms of indication. The need for chemoprophylaxis exceeded bleeding risks for 55 (67.1%) patients but only 30 (36.6%) patients were given chemoprophylaxis (enoxaparin). When enoxaparin was prescribed, none of the dosing regimens were compliant to NUH guidelines in all three aspects of dose and frequency, prophylaxis duration and time of first dose initiation. During the 3-months follow-up, no bleeding events due to enoxaparin occurred. 9 (11.0%) patients developed thrombosis. Among which, one patient developed pulmonary embolism while another developed thrombosis in the femoral vein. The study revealed the baseline chemoprophylaxis and enoxaparin usage patterns in NUH TKR and THR patients. The adverse clinical outcomes that occurred identified potential safety gaps within the prescribing practices, for which recommendations were made to improve the safe and effective use of VTE chemoprophylaxis in NUH post-surgical orthopedic patients.

Biography

Chung Yue Ling graduated from National University of Singapore in 2013 with a Bachelor of Science (Pharmacy) degree, First Class Honours. She is now working as an inpatient hospital pharmacist at the National University Hospital of Singapore, taking charge of general medicine and oncology wards.

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