Sub therapeutic rivaroxaban plasma concentrations following administration via Percutaneous Endoscopic Gastrostomy (PEG) feeding tubes – A note of caution

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Sub therapeutic rivaroxaban plasma concentrations following administration via Percutaneous Endoscopic Gastrostomy (PEG) feeding tubes – a note of caution

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Rivaroxaban is a direct factor Xa inhibitor currently licensed for the acute treatment and prevention of venous thromboembolism and for the prevention of stroke in the context of atrial fibrillation (AF). Rivaroxaban is rapidly absorbed with maximum concentrations reported around 2 - 4 hours post ingestion. Oral bioavailability is high (80 - 100%) for the 2.5mg and 10 mg tablet dose under fasting conditions or with food. The 20mg dose of rivaroxaban has reduced bioavailability of 66%, under fasting conditions, increasing to near 100% when taken with food [SPC, 2016]. Absorption of rivaroxaban is dependent on the site of its release in the gastrointestinal tract. A 29% and 56% decrease in area-under the concentration-time-curve (AUC) and Cmax compared to tablet is reported when rivaroxaban granulate is released in the proximal small intestine. Exposure is further reduced when rivaroxaban is released in the distal small intestine, or ascending colon [SPC, 2016]. Therefore, administration of rivaroxaban distal to the stomach should be avoided since this can result in reduced absorption and related rivaroxaban exposure. For patients unable to ingest whole tablets, rivaroxaban may be given through a gastric tube after confirmation of the correct placement of the tube. It is suggested that the crushed tablet should be administered in a small amount of water via a gastric tube after which it should be flushed with water. The dose of rivaroxaban should then be immediately followed by enteral feeding [Moore *et al*., 2014; SPC, 2016].

We report our experience of administering rivaroxaban via a PEG tube in three patients requiring oral anticoagulation therapy, following a cardioembolic stroke (table 1). A direct oral anticoagulant was selected over warfarin in order to reduce the need for regular INR testing in the community and as part of a local initiative to decrease district nursing workload.