Administration of Potential Medications of COVID-19 Treatment Through Feeding Tube

COVID-19 Tedavisi için Kullanılan Potansiyel İlaçların Beslenme Tüpünden Uygulanması

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Dear Editor,
While the evidence behind the medical treatment of COVID-19 is growing tremendously (1), alternative administration routes of these medications should be considered especially for intubated patients who have feeding tube (FT) or for elderly and pediatric patients with swallowing difficulties. Administration of drugs via FT with inappropriate administration techniques can increase, decrease or delay the effect of the drugs or either can clog feeding tubes. Since larger diameter tubes are used in adults, tube clogging is a relatively more common concern in children (2). We believe that a quick overview of this possible alternative administration for potential drugs used in the treatment of COVID-19 will be useful for healthcare professionals, especially in countries where alternative dosage forms are not available.

Various antiviral agents are used for the treatment of COVID-19. Favipravir, one of those antiviral agents, can be crushed and mixed with water so that it can be administered via FT (3). In practice, before and after each drug administration through a FT, tube should be flushed with at least 15 ml of water. If the oral suspension dosage form is not available, it is also recommended to open up the oseltamivir capsule. Since remdesivir is only available in a parenteral dosage form, it cannot be administered via FT (4).

Even though hydroxychloroquine with/without azithromycin treatment is not preferred in current clinical practice, it is still recommended in some local treatment algorithms of COVID-19. Hydroxychloroquine is available as film coated tablet form. It is recommended to avoid crushing tablets by the manufacturer however it was reported in the literature that the tablets may be crushed if no other option is available (4). Azithromycin is available in tablet, capsule and oral suspension dosage forms. Oral suspension is preferred if available. Otherwise, it is appropriate to open capsules / tablets and mix them with water for FT administration (4).
When oral anticoagulants or acetylsalicylic acid are chosen for thromboprophylaxis of COVID-19, it is not recommended to open or to crush the dabigatran capsules as it results in a 75% increase in their absorption (5). On the other hand, rivaroxaban may be crushed and suspended in 50 ml of water prior to administration. The location distal end point of the FT should be in the stomach for better bioavailability (5). Apixaban may also be crushed and suspended with 60 ml of water or apple juice. Crushed tablets are stable up to 4 hours in water. Edoxaban may be crushed and suspended in 60-90 ml of water and should be administered immediately (5).

There is no specific recommendation for the use of aspirin or other non-steroidal anti-inflammatory drugs (NSAIDs) for treatment of COVID-19 in the guidelines. However, crushing the enteric-coated tablets containing acetylsalicylic acid may adversely affect the properties of the formulation, alter the bioavailability or clog the tube, therefore administration of conventional tablets via FT should be considered (5).

Corticosteroid therapy is mostly considered in patients with severe pneumonia and intensive care unit patients who need oxygen support/mechanical ventilation. Treatment should be planned for short term and with low doses. Dexamethasone and methylprednisolone tablets may disperse in water quickly without the need of crushing and therefore can be administered through FT. The information on administration of prednisolone tablets through FT is not available. Therefore, parenteral application should be considered as a better treatment option.

Total daily sorbitol amount over 20 g might cause diarrhea, therefore if liquid dosage form of any of medication is preferred, the amount of its sorbitol ingredient needs to be considered (2). Diarrhea is also one of the symptoms of COVID-19. Thus, if the clinicians are unaware of sorbitol related diarrhea, this might mislead their clinical judgement (1).

Although none of these medications is confirmed for the treatment of COVID-19 yet, many countries published various treatment algorithms. Thus, administration of these medications through FT should be the part of these possible treatment algorithms or guidelines. Furthermore, clinicians should be aware that inappropriate administration of these drugs through FT may result in treatment failure.

References