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Comparative study of fosaprepitant and aprepitant for the prevention of chemotherapy-induced nausea and vomiting in pediatric cancer patients

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February 4, 2021

Abstract

Abstract Children aged 2-12 years scheduled to receive moderately or highly emetogenic chemotherapy were randomly assigned to arm-A (fosaprepitant) or arm-B (aprepitant). Children recruited to arm-A received intravenous ondansetron plus dexamethasone followed by fosaprepitant infusion. Children recruited to arm-B received the same drugs as those given to children in arm-A, except that fosaprepitant was substituted with aprepitant. The primary end point of the study was to determine the proportion of patients who achieved a CR, defined as no vomiting, no retching, and no use of rescue medication, the proportion of patients who achieved a CR during the acute phase (0-24 hours) after administration of the last dose of chemotherapy. Secondary end points were the proportion of patients who achieved a CR during the 24-120 hours (delayed phase) and overall after administration of the last dose of chemotherapy. Results: One hundred and eight patients were analyzed (55 in the fosaprepitant arm and 53 in the aprepitant arm). CR rates were higher in the fosaprepitant arm compared with the aprepitant arm during the acute phase (95 % vs 79 %, P =0.01< 0.05), delayed phase (71 % vs 66 %, P =0.89), and overall phase (69 % vs 57 %, P =0.18). Furthermore, the demand of rescue anti-emetics observed in fosaprepitant arm (7 %) has no difference with aprepitant arm (11 %). Conclusion: Addition of fosaprepitant to ondansetron and dexamethasone is more effective than aprepitant for the prevention of acute vomiting.

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FIGURE 1 CONSORT diagram

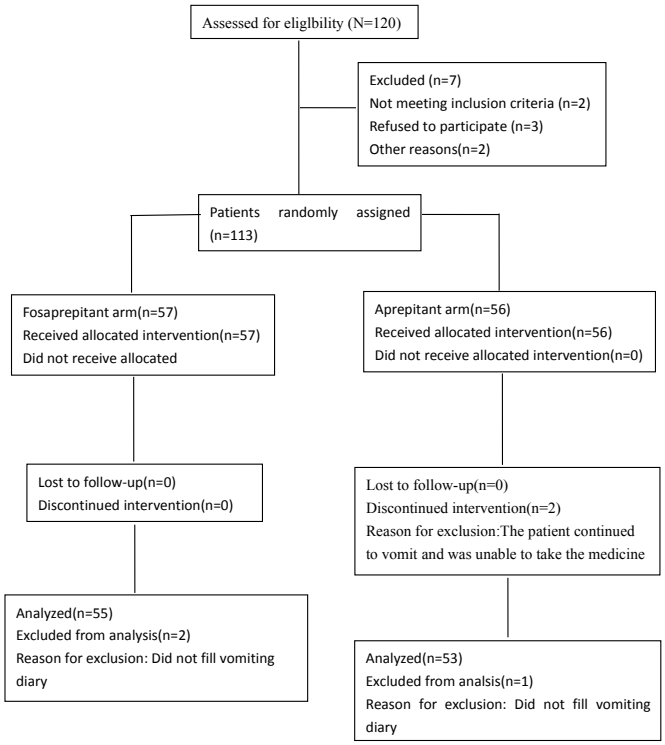

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FIGURE 2 Proportion of patients who achieved complete response in the fosaprepitant and aprepitant arms