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Aprepitant for prevention of chemotherapy-induced nausea and vomiting (CINV) in adults: A meta-analysis of randomized controlled trials (RCTs)

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Background: Various RCTs have shown improved outcomes with addition of aprepitant to standard antiemetic treatment (SAT) in preventing CINV. We conducted a metaanalysis to study the overall impact of ACR in CINV prevention in adults.

Methods: We searched Pubmed and Ovid databases, and American Society of Clinical Oncology meetings abstracts for RCTs using ACR with SAT for CINV prevention in adult cancer patients (pts). Major study end points were complete response to treatment (CR; defined as no emesis and no use of rescue medications) in overall phase (OP; 0120 hours of chemotherapy), acute phase (AP; 024 hours) and delayed phase (DP; 24120 hours). Additionally, we assessed the control of nausea and toxicity profile (TP). Stouffer's Zscore method was used to calculate the overall effect.

Results: 16 RCTs (5,547 pts) were included. 11 trials (3,314 pts) involved highly emetogenic chemotherapy (HEC) and 5 trials (2,233 pts) involved moderately emetogenic chemotherapy (MEC). ACR increased CR in OP from 47% to 63% (OR=0.52, CI=0.46 to 0.58; $p<0.001$), in AP from 73% to 81% ($p<0.01$), and in DP from 51% to 66% ($p<0.001$). Significant increase in nausea control was seen in DP ($p=0.03$) but not in OP or AP. Incidence of various toxicities was statistically similar in both groups except slightly higher rate of fatigue ($p=0.02$) and hiccups ($p<0.001$), and lower rate of neutropenia ($p=0.02$) in ACR.

Conclusions: ACR is effective in CINV due to both HEC and MEC in adult cancer pts. ACR improves the control of emesis in all phases, and nausea in delayed phase only. With the exception of causing more fatigue & hiccups, and lesser neutropenia, overall TP of ACR is similar to SAT.

Biography

Neha Gupta completed her medical school from Maulana Azad Medical College in India and did a residency in Internal Medicine in State University of New York at Buffalo, New York. She is currently a post-graduate fellow in palliative medicine in New York and actively working in the field of supportive and palliative care. Her major area of interest is supportive care in oncology. She has authored in many peer-reviewed journals and has presented over 20 posters in national and international scientific conferences. She has been an invited lecturer to speak in the field of palliative care, targeted therapy, and leukemia within United States and internationally. She is a member of several national scientific associations, and has received many awards in recognition of her contribution in medicine, palliative care and oncology.

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