

## PubMed

The database was searched on July 30, 2020, n=302.

## Search Strategy:

(Aprepitant[Title/Abstract] OR Emend[Title/Abstract] OR MK869[Title/Abstract] OR MK0517[Title/Abstract] OR L754030[Title/Abstract]) AND (Dexamethasone[Title/Abstract] OR Methylfluorprednisolone[Title/Abstract] OR Hexadecadrol[Title/Abstract] OR Decameth[Title/Abstract] OR Decaspray[Title/Abstract] OR Dexasone[Title/Abstract] OR Dexpak[Title/Abstract] OR Maxidex[Title/Abstract] OR Millicorten[Title/Abstract] OR Oradexon[Title/Abstract] OR Decaject[Title/Abstract] OR Hexadrol[Title/Abstract]) AND (Chemotherapy[Title/Abstract] OR Chemotherapies[Title/Abstract] OR Drug Therapy[Title/Abstract] OR Drug Therapies[Title/Abstract] OR Pharmacotherapy[Title/Abstract] OR Pharmacotherapies[Title/Abstract])

## Web of Science

The database was searched on July 30, 2020, n=637.

## Search Strategy:

1 TOPIC: ("Aprepitant" OR "Emend" OR "MK869" OR "MK0517" OR "L754030") (25318)  
 2 TOPIC: ("Dexamethasone" OR "Methylfluorprednisolone" OR "Hexadecadrol" OR "Decameth" OR "Decaspray" OR "Dexasone" OR "Dexpak" OR "Maxidex" OR "Hexadecadrol" OR "Millicorten" OR "Oradexon" OR "Decaject" OR "Hexadrol") (117406)  
 3 TOPIC: ("Chemotherapy" OR "Chemotherapies" OR "Drug Therapy" OR "Drug Therapies" OR "Pharmacotherapy" OR "Pharmacotherapies") (6107413)  
 4 #1 AND #2 AND #3 (637)

## EMBASE

The database was searched on July 30, 2020, n=639.

## Search Strategy:

('Aprepitant':ti,ab,kw OR 'Emend':ti,ab,kw OR 'MK869':ti,ab,kw OR 'MK0517':ti,ab,kw OR 'L754030':ti,ab,kw) AND ('Dexamethasone':ti,ab,kw OR 'Methylfluorprednisolone':ti,ab,kw OR 'Hexadecadrol':ti,ab,kw OR 'Decameth':ti,ab,kw OR 'Decaspray':ti,ab,kw OR 'Dexasone':ti,ab,kw OR 'Dexpak':ti,ab,kw OR 'Maxidex':ti,ab,kw OR 'Millicorten':ti,ab,kw OR 'Oradexon':ti,ab,kw OR 'Decaject':ti,ab,kw OR 'Hexadrol':ti,ab,kw) AND ('Chemotherapy':ti,ab,kw OR 'Chemotherapies':ti,ab,kw OR 'Drug Therapy':ti,ab,kw OR 'Drug Therapies':ti,ab,kw OR 'Pharmacotherapy':ti,ab,kw OR 'Pharmacotherapies':ti,ab,kw)

## Cochrane Library

The database was searched on July 30, 2020, n=368.

## Search Strategy:

("Aprepitant" OR "Emend" OR "MK869" OR "MK0517" OR "L754030"): ti,ab,kw AND ("Dexamethasone" OR "Methylfluorprednisolone" OR "Hexadecadrol" OR "Decameth" OR "Decaspray" OR "Dexasone" OR "Dexpak" OR "Maxidex" OR "Millicorten" OR "Oradexon" OR "Decaject" OR "Hexadrol"): ti,ab,kw AND ("Chemotherapy" OR "Chemotherapies" OR "Drug Therapy" OR "Drug Therapies" OR "Pharmacotherapy" OR "Pharmacotherapies"): ti,ab,kw - (Word variations have been searched)

## Ovid MEDLINE

The database was searched on July 30, 2020, n=295.

## Search Strategy:

1 Aprepitant (1279)  
 2 MK869 (38)  
 3 MK0517 (0)  
 4 Emend (1279)  
 5 L754030 (10)  
 6 or/1-5 [Aprepitant] (1303)  
 7 Dexamethasone (71778)  
 8 Methylfluorprednisolone (3)  
 9 Hexadecadrol (38)  
 10 Decameth (2)  
 11 Decaspray (2)  
 12 Dexasone (16)  
 13 Dexpak (2)  
 14 Maxidex (28)  
 15 Millicorten (7)  
 16 Oradexon (10)  
 17 Decaject (2)  
 18 Hexadrol (9)  
 19 or/7-18 [Dexamethasone] (71793)  
 20 Chemotherapy (444985)  
 21 Chemotherapies (5758)  
 22 Drug Therapy (2302637)  
 23 Drug Therapies (4479)  
 24 Pharmacotherapy (30468)  
 25 Pharmacotherapies (3636)  
 26 or/20-25 [Chemotherapy] (2535245)  
 27 6 and 19 and 26 (347)  
 28 limit 27 to humans (295)

## ScienceDirect

The database was searched on July 30, 2020, n=146.

## Search Strategy:

Title, abstract, keywords: (("Aprepitant" OR "Emend" OR "MK869" OR "MK0517" OR "L754030") and ("Dexamethasone" OR "Methylfluorprednisolone" OR "Hexadecadrol" OR "Decameth" OR "Decaspray" OR "Dexasone" OR "Dexpak" OR "Maxidex" OR "Millicorten" OR "Oradexon" OR "Decaject" OR "Hexadrol") and ("Chemotherapy" OR "Chemotherapies" OR "Drug Therapy" OR "Drug Therapies" OR "Pharmacotherapy" OR "Pharmacotherapies"))

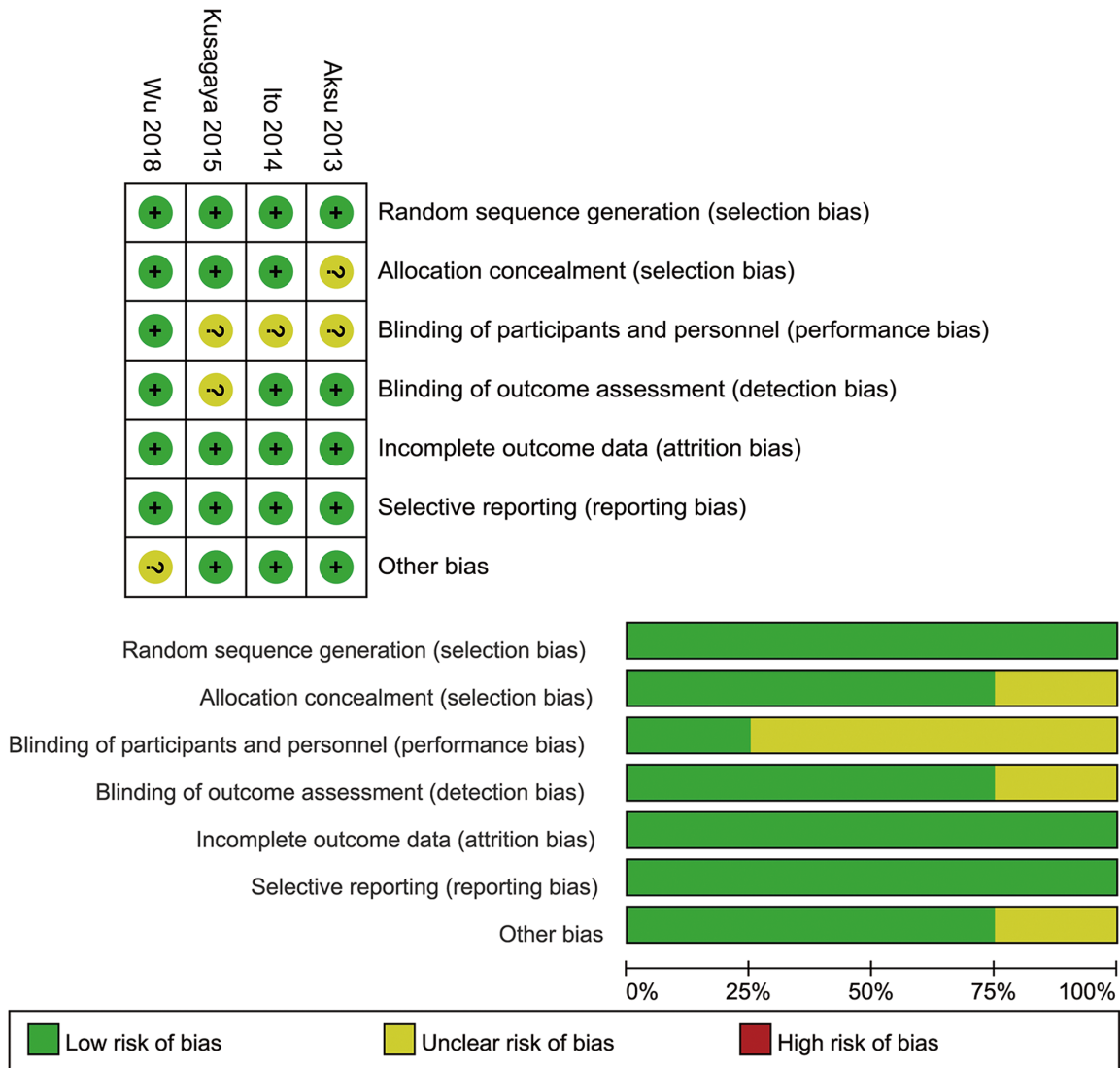
## Scopus

The database was searched on July 30, 2020, n=583.

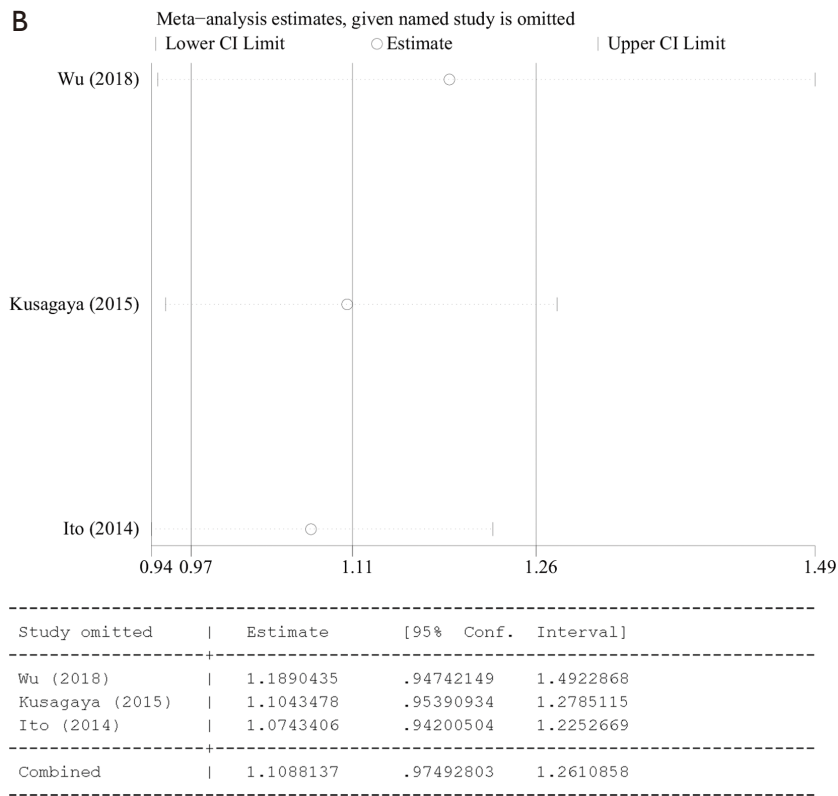
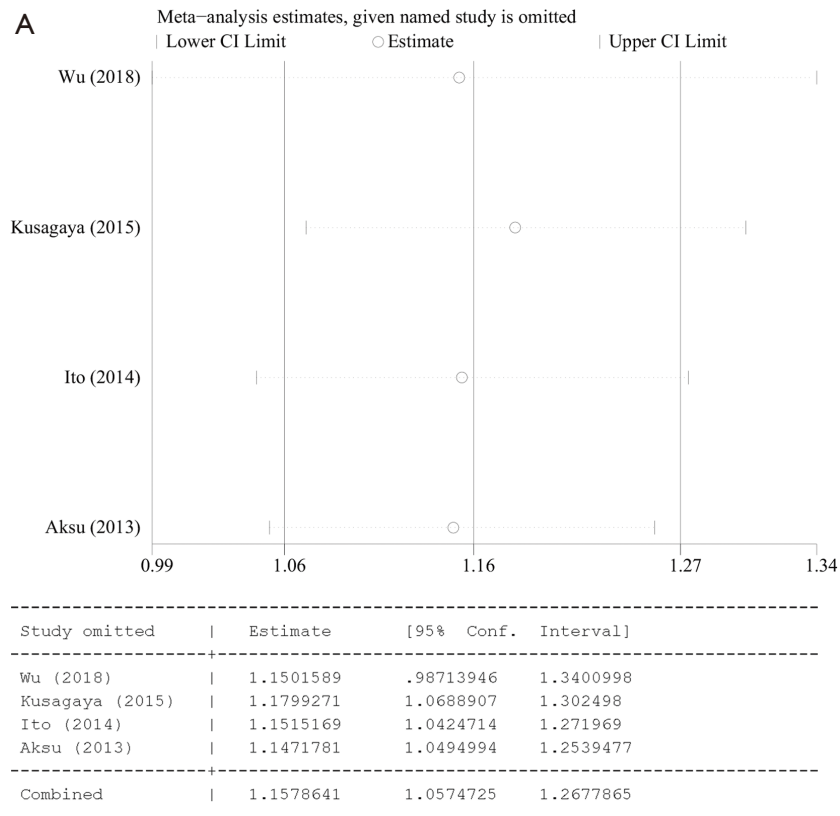
## Search Strategy:

TITLE-ABS-KEY (("Aprepitant" OR "Emend" OR "MK869" OR "MK0517" OR "L754030") and ("Dexamethasone" OR "Methylfluorprednisolone" OR "Hexadecadrol" OR "Decameth" OR "Decaspray" OR "Dexasone" OR "Dexpak" OR "Maxidex" OR "Millicorten" OR "Oradexon" OR "Decaject" OR "Hexadrol") and ("Chemotherapy" OR "Chemotherapies" OR "Drug Therapy" OR "Drug Therapies" OR "Pharmacotherapy" OR "Pharmacotherapies"))

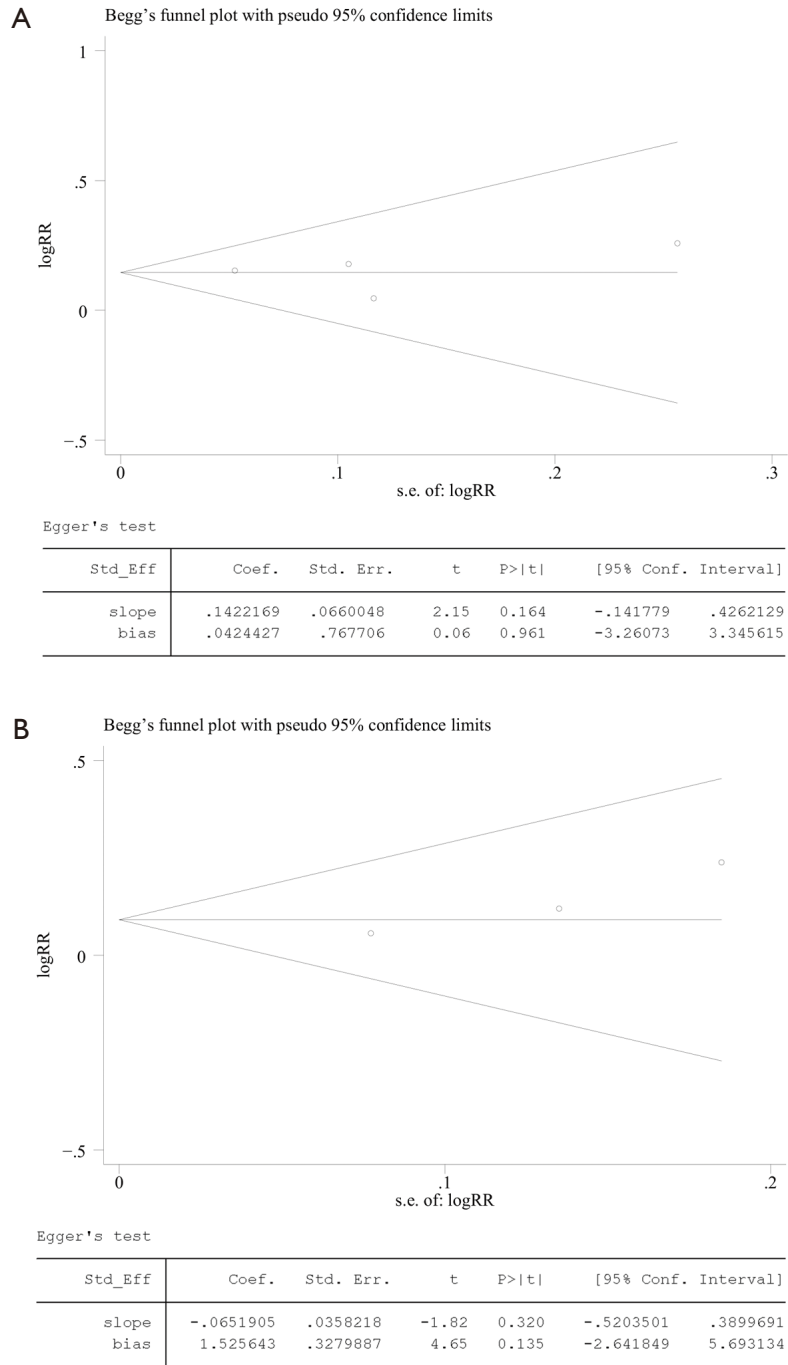
**Figure S1** Search strategy. The combined text and medical subject heading (MeSH) terms used were: "Aprepitant", "Dexamethasone", "Chemotherapy".



**Figure S2** Risk of Bias Assessment of all included studies.



**Figure S3** Meta-based influence analysis for comparisons of overall CR (A) and overall NNR (B). CR, complete response; NNR, no nausea rate.



**Figure S4** Begg's and Egger's tests for comparisons of overall CR (A) and overall NNR (B). CR, complete response; NNR, no nausea rate.

**Table S1** Quality assessment of the included studies according to the Jadad scale

Study	Randomness	Blackout	Follow-up management	Quality (score)
Wu 2018 (11)	**	**	*	5
Kusagaya 2015 (13)	**	*	*	4
Ito 2014 (14)	**	*	*	4
Aksu 2013 (12)	*	*	*	3

**Table S2** GRADE Quality assessment by therapeutic strategy and study design for the outcomes

Primary outcomes	No. of Studies	No. of participants		Differences <sup>a</sup> (95% CI)	Quality assessment					Quality
		ADH	DH		Risk of bias <sup>b</sup>	Nonuniformity	Circuitous	Inaccuracy	Publication bias <sup>c</sup>	
CR										
Overall	4	217/261	185/257	1.16 [1.06, 1.27]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Acute	2	106/108	105/106	0.99 [0.95, 1.03]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Delayed	2	87/108	76/106	1.12 [0.97, 1.31]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
NNR										
Overall	3	159/230	142/228	1.11 [0.97, 1.26]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Acute	1	50/67	54/67	0.93 [0.77, 1.11]	Serious (-1)	No nonuniformity	No circuitous	No inaccuracy	Unlikely	Medium
Delayed	2	67/108	57/106	1.15 [0.92, 1.43]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
RAT	2	28/189	64/189	0.44 [0.29, 0.65]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Total AEs										
Hematologic toxicity										
Leukopenia	2	50/108	55/106	0.92 [0.60, 1.40]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Neutropenia	2	52/108	54/106	0.98 [0.56, 1.70]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Anemia	2	42/108	35/106	1.18 [0.82, 1.69]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Thrombocytopenia	2	39/108	38/106	1.00 [0.71, 1.42]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Non-hematologic toxicity										
Hepatotoxicity	2	21/108	23/106	0.90 [0.53, 1.52]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Nephrotoxicity	2	3/108	4/106	0.74 [0.17, 3.23]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Constipation	2	32/108	30/106	1.04 [0.69, 1.59]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Allergic reaction	2	2/108	2/106	1.00 [0.15, 6.89]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Hiccups	2	16/108	12/106	1.20 [0.39, 3.67]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Fatigue	3	45/230	48/228	1.11 [0.50, 2.47]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Diarrhea	3	3/230	5/228	0.63 [0.17, 2.35]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Grade3-5 AEs										
Hematologic toxicity										
Leukopenia	2	12/108	18/106	0.66 [0.34, 1.29]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Neutropenia	2	16/108	20/106	0.79 [0.43, 1.43]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Anemia	2	4/108	2/106	1.77 [0.38, 8.18]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Thrombocytopenia	2	9/108	12/106	0.73 [0.32, 1.68]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Non-hematologic toxicity										
Hepatotoxicity	2	0/108	2/106	0.33 [0.03, 3.08]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Nephrotoxicity	2	0/108	0/106	–	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Constipation	2	2/108	0/106	4.76 [0.24, 96.16]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Allergic reaction	2	1/108	0/106	3.00 [0.12, 72.35]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Hiccups	2	0/108	0/106	–	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Fatigue	3	1/230	3/228	0.33 [0.04, 3.12]	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
Diarrhea	3	0/230	0/228	–	Low	No nonuniformity	No circuitous	No inaccuracy	Unlikely	High
FLIE score										
>50	1	1/31	9/29	0.10 [0.01, 0.77]	Serious (-1)	No nonuniformity	No circuitous	No inaccuracy	Unlikely	Medium
>20	1	5/31	13/29	0.36 [0.15, 0.88]	Serious (-1)	No nonuniformity	No circuitous	No inaccuracy	Unlikely	Medium

<sup>a</sup>, Differences: risk ratios (RR) for CR, NNR, RAT, Total AEs, Grade3-5 AEs and FLIE score. <sup>b</sup>, Risk of bias assessed using the Jadad Scale for randomized controlled trials. <sup>c</sup>, Publication bias was assessed by Egger's and Begg's tests. ADH, aprepitant, dexamethasone and a 5-HT3 receptor antagonist; AEs, Adverse events; CI, confidence interval; CR, complete response; DH, dexamethasone and a 5-HT3 receptor antagonist; FLIE, Functional Living Index Emesis; NNR, no nausea rate; RAT, Rescue antiemetic treatment.

**Table S3** Total grade adverse effects associated with ADH versus DH

Adverse effects	Studies involved	ADH group		DH group		Total incidence	Risk ratio	95% CI	I <sup>2</sup>	P
		Event/total	%	Event/total	%					
Hematologic toxicity										
Leukopenia	2	50/108	46.30%	55/106	51.89%	49.07%	0.92	0.60–1.40	58%	0.68
Neutropenia	2	52/108	48.15%	54/106	50.94%	49.53%	0.98	0.56–1.70	75%	0.94
Anemia	2	42/108	38.89%	35/106	33.02%	35.98%	1.18	0.82–1.69	0%	0.38
Thrombocytopenia	2	39/108	36.11%	38/106	35.85%	35.98%	1.00	0.71–1.42	0%	1.00
Non-hematologic toxicity										
Hepatotoxicity	2	21/108	19.44%	23/106	21.70%	20.56%	0.90	0.53–1.52	0%	0.70
Nephrotoxicity	2	3/108	2.78%	4/106	3.77%	3.27%	0.74	0.17–3.23	0%	0.69
Constipation	2	32/108	29.63%	30/106	28.30%	28.97%	1.04	0.69–1.59	0%	0.84
Allergic reaction	2	2/108	1.85%	2/106	1.89%	1.87%	1.00	0.15–6.89	–	1.00
Hiccups	2	16/108	14.81%	12/106	11.32%	13.08%	1.20	0.39–3.67	56%	0.75
Fatigue	3	45/230	19.57%	48/228	21.05%	20.31%	1.11	0.50–2.47	66%	0.79
Diarrhea	3	3/230	1.30%	5/228	2.19%	1.75%	0.63	0.17–2.35	15%	0.49
Decreased appetite	1	25/122	20.49%	22/122	18.03%	19.26%	1.14	0.68–1.90	–	0.63
Pain-abdominal	1	0/122	0.00%	0/122	0.00%	0.00%	–	–	–	–

ADH, aprepitant, dexamethasone and a 5-HT3 receptor antagonists; CI, confidence interval; DH, dexamethasone and a 5-HT3 receptor antagonists.

**Table S4** Grade 3–5 adverse effects associated with ADH versus DH

Adverse effects	Studies involved	ADH group		DH group		Total incidence	Risk ratio	95% CI	I <sup>2</sup>	P
		Event/total	%	Event/total	%					
Hematologic toxicity										
Leukopenia	2	12/108	11.11%	18/106	16.98%	14.02%	0.66	0.34–1.29	0%	0.23
Neutropenia	2	16/108	14.81%	20/106	18.87%	16.82%	0.79	0.43–1.43	0%	0.43
Anemia	2	4/108	3.70%	2/106	1.89%	2.80%	1.77	0.38–8.18	0%	0.47
Thrombocytopenia	2	9/108	8.33%	12/106	11.32%	9.81%	0.73	0.32–1.68	50%	0.47
Non-hematologic toxicity										
Hepatotoxicity	2	0/108	0.00%	2/106	1.89%	0.93%	0.33	0.03–3.08	0%	0.33
Nephrotoxicity	2	0/108	0.00%	0/106	0.00%	0.00%	–	–	–	–
Constipation	2	2/108	1.85%	0/106	0.00%	0.93%	4.76	0.24–96.16	–	0.31
Allergic reaction	2	1/108	0.93%	0/106	0.00%	0.47%	3.00	0.12–72.35	–	0.50
Hiccups	2	0/108	0.00%	0/106	0.00%	0.00%	–	–	–	–
Fatigue	3	1/230	0.43%	3/228	1.32%	0.87%	0.33	0.04–3.12	–	0.34
Diarrhea	3	0/230	0.00%	0/228	0.00%	0.00%	–	–	–	–
Decreased appetite	1	0/122	0.00%	0/122	0.00%	0.00%	–	–	–	–
Pain-abdominal	1	0/122	0.00%	0/122	0.00%	0.00%	–	–	–	–

ADH, aprepitant, dexamethasone and a 5-HT3 receptor antagonists; CI, confidence interval; DH, dexamethasone and a 5-HT3 receptor antagonists.