



Bilaga till rapport

1 (9)

Behandling av extremt graviditetsillamående
(hyperemesis gravidarum) /
Treatments for extreme nausea and vomiting in pregnancy
(hyperemesis gravidarum)
rapport 355 (2022)

Bilaga 1 Litteratursökning/Appendix 1 Search strategies

Allied and complementary Medicine (AMED) via DialogSolutions 14 June 2022
Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis gravidarum	
SU.EXACT.EXPLODE("HYPEREMESIS GRAVIDARUM")	45
4. ti("HYPEREMESIS GRAVIDARUM") OR ab("HYPEREMESIS GRAVIDARUM")	25
Population: severe nausea during pregnancy	
5. (SU.EXACT("VOMITING") OR SU.EXACT("NAUSEA")) AND SU.EXACT.EXPLODE("PREGNANCY COMPLICATIONS")	30
6. AB,TI(pregnan* OR antenatal OR prenatal OR "ante natal" OR "pre natal") N/5 AB,TI(nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic* OR retch* OR "dry heave" OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting)	60
Final set	
7. 1 OR 2 OR 3 OR 4	97

CINAHL via EBSCO 14 June 2022

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis gravidarum	
1. (MH "Hyperemesis Gravidarum")	692
2. TX Hyperemesis gravidarum OR (TX hyperemesis AND TX (pregnanc* OR obstet* OR antenatal OR prenatal OR "ante natal" OR "pre natal"))	1,219
3. 1 OR 2	1,219
Population: severe nausea during pregnancy	
4. (MH "Pregnancy") AND ((MH "Vomiting") OR (MH "Nausea") OR (MH "Sialorrhoea"))	484
5. TI(pregnan* OR antenatal OR prenatal OR "ante natal" OR "pre natal") AND TI(nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic OR retch* OR dry heave OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting)	472
6. (TX pregnan* OR antenatal OR prenatal OR "ante natal" OR "pre natal") N5 (TX nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic OR retch* OR dry heave OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting)	1,668
7. 4 OR 5 OR 6	1,931
Combined sets:	
8. 3 AND 7	2,767
Final result	
9. 8 NOT (((ZT "brief item") or ((ZT "bibliography") or (ZT "book") or (ZT "book chapter") or (ZT "book review") or (ZT "case study") or (ZT "conference paper") or (ZT "conference proceeding") or (ZT "consumer/patient") or (ZT "consumer/patient teaching") or (ZT "consumer/patient teaching materials") or (ZT "course review") or (ZT "dissertation") or (ZT "doctoral dissertation") or (ZT "entertainment review") or (ZT "essay") or (ZT "government documents") or (ZT "historical material") or (ZT "information website") or (ZT "instruction") or (ZT "letter") or (ZT "masters thesis") or (ZT "medical guideline") or (ZT "newspaper") or (ZT "opinion") or (ZT "pamphlet") or (ZT "pamphlet chapter") or (ZT "patient teaching materials") or (ZT "periodical") or (ZT "personal narrative") or (ZT "proceeding") or (ZT "proceedings") or (ZT "questionnaire/scale") or (ZT "questions and answers") or (ZT "table of contents")))) AND Limiters - Journal Subset: Peer Reviewed	1635

The final search result, usually found at the end of the documentation, forms the list of abstracts.

AB = Abstract; **AU** = Author; **DE** = Term from the thesaurus; **MH**= Exact Subject Heading from CINAHL Subject Headings; **MM** = Major Concept; **TI** = Title; **TX** = All Text. Performs a keyword search of all the database's searchable fields; **ZC** = Methodology Index; * = Truncation; " " = Citation Marks; searches for an exact phrase; **N** = Near Operator (N) finds the words if they are a maximum of x words apart from one another, regardless of the order in which they appear.; **W** = Within Operator (W) finds the words if they are within x words of one another, in the order in which you entered them.



Bilaga till rapport

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Behandling av extremt graviditetsillamående
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rapport 355 (2022)

Cochrane Library via Wiley 14 June 2022 (CDSR, Cochrane Protocols & CENTRAL)

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis gravidarum	
1. [mh "Hyperemesis Gravidarum"]	65
2. "Hyperemesis Gravidarum":ti,ab	156
Population: severe nausea during pregnancy	
3. ([mh ^Pregnancy] OR [mh ^"Pregnancy Complications"] OR [mh ^"Pregnant Women"]) AND ([mh ^Nausea] OR [mh ^Vomiting] OR [mh ^Sialorrhæa])	274
4. (pregnan*:ti,ab OR antenatal:ti,ab OR prenatal:ti,ab OR "ante natal":ti,ab OR "pre natal":ti,ab) NEAR/5 (nause*:ti,ab OR sickness:ti,ab OR vomit*:ti,ab OR emesis:ti,ab OR hyperemesis:ti,ab OR antiemetic*:ti,ab OR retch*:ti,ab OR ("dry" NEXT heave*):ti,ab OR heaving:ti,ab OR ptyalism:ti,ab OR hypersalivat*:ti,ab OR sialorrh*:ti,ab OR spitting:ti,ab)	426
Combined sets	
5. 1 OR 2 OR 3 OR 4	708
Final result	
6. 5	CDSR/11 Cochrane Protocols/0 CENTRAL/69 7

The final search result, usually found at the end of the documentation, forms the list of abstracts.

:**au** = Author; MeSH = Term from the Medline controlled vocabulary, including terms found below this term in the MeSH hierarchy; **this term only** = Does not include terms found below this term in the MeSH hierarchy; **:ti** = Title; **:ab** = Abstract; **:kw** = Keyword; * = Truncation; " " = Citation Marks; searches for an exact phrase; **CDSR** = Cochrane Database of Systematic Review; **Cochrane Protocols** = Protocols of systematic reviews registered in Cochrane Library; **CENTRAL** = Cochrane Central Register of Controlled Trials, "trials"



Bilaga till rapport

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Behandling av extremt graviditetsillamående
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rapport 355 (2022)

Embase via Elsevier 14 June 2022

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis Gravidarum	
1. 'hyperemesis gravidarum'/exp	3,108
2. 'Hyperemesis gravidarum':ti,ab OR (hyperemesis:ti,ab AND (pregnanc*:ti,ab OR obstet*:ti,ab OR antenatal:ti,ab OR prenatal:ti,ab OR 'ante natal':ti,ab OR 'pre natal':ti,ab))	2,307
3. 1 OR 2	3,572
Population: severe nausea during pregnancy	
4. ('pregnancy'/exp/mj OR 'pregnancy complication'/mj) AND ('nausea and vomiting'/mj OR 'nausea'/mj OR 'retching'/mj OR 'hyperemesis'/mj OR 'vomiting'/mj)	1,267
5. (pregnan* OR antenatal OR prenatal OR 'ante natal' OR 'pre natal') NEAR/5 (nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic* OR retch* OR 'dry heave*' OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting)	2,884
6. 4 OR 5	3,469
Combined sets	
7. 3 OR 6	5,807
Limits and study types	
8. 'systematic review'/exp OR 'meta analysis'/exp OR 'clinical trial'/exp OR 'intervention study'/de	1,997,960
Study types: randomised controlled trials and other trials (based on the Cochrane Embase RCT filter)¹	
9. 'randomized controlled trial'/de OR 'controlled clinical trial'/de OR random*:ti,ab,tt OR 'randomization'/de OR 'intermethod comparison'/de OR placebo:ti,ab,tt OR (compare:ti,tt OR compared:ti,tt OR comparison:ti,tt) OR ((evaluated:ab OR evaluate:ab OR evaluating:ab OR assessed:ab OR assess:ab) AND (compare:ab OR compared:ab OR comparing:ab OR comparison:ab)) OR (open NEXT/1 label):ti,ab,tt OR ((double OR single OR doubly OR singly) NEXT/1 (blind OR blinded OR blindly)):ti,ab,tt OR 'double blind procedure'/de OR (parallel NEXT/1 group*):ti,ab,tt OR (crossover:ti,ab,tt OR 'cross over':ti,ab,tt) OR ((assign* OR match OR matched OR allocation) NEAR/6 (alternate OR group OR groups OR intervention OR interventions OR patient OR patients OR subject OR subjects OR participant OR participants)):ti,ab,tt OR (assigned:ti,ab,tt OR allocated:ti,ab,tt) OR (controlled NEAR/8 (study OR design OR trial)):ti,ab,tt OR 'human experiment'/de OR Trial:ti,tt	5,419,923
10. 8 OR 9	6,148,671
Combined sets	
11. 7 AND 10	1,118
Final result	
12. #11 NOT 'conference paper'/exp	1,038

The final search result, usually found at the end of the documentation, forms the list of abstracts.

/de = Term from the Emtree controlled vocabulary; /exp = Includes terms found below this term in the Emtree hierarchy
/mj = Major Topic; :ab = Abstract; :au = Author; :ti = Article Title; :ti,ab = Title or abstract; * = Truncation; ' ' = Citation
Marks; searches for an exact phrase; NEAR/n = Requests terms that are within 'n' words of each other in either direction;
NEXT/n = Requests terms that are within 'n' words of each other in the order specified

¹ https://drive.google.com/file/d/10JU-2vicvIc83_PghgelfqY5aQnYd-hB/view

Medline via OvidSP 14 June 2022

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis Gravidarum	
1. exp Hyperemesis Gravidarum/	1729
2. "Hyperemesis Gravidarum".ti,ab.	1548
3. ((hyperemesis.mp) ADJ10 (pregnan*.mp OR obstetric*.mp OR antenatal.mp OR prenatal.mp OR "ante natal".mp OR "pre natal".mp))	1178
4. limit 3 to "pubmed not medline"	100
5. 1 OR 2 OR 4	2206
Population: severe or intractable nausea and vomiting	
6. (Pregnancy/ OR Pregnancy Complications/ OR Pregnant Women/) AND (Nausea/ OR Vomiting/ OR Sialorrhoea/)	2229
7. (pregnan* OR antenatal OR prenatal OR "ante natal" OR "pre natal").mp ADJ5 (nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic* OR retch* OR "dry heave*" OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting).mp	3026
8. 6 OR 7	3932
Combined sets:	
9. 5 OR 8	5101
Final set:	
10. 9 NOT (editorial/ OR News/ OR exp Historical Article/ OR Anecdotes as Topic/ OR case reports/ or clinical conference/)	4229

The final search result, usually found at the end of the documentation, forms the list of abstracts.

.ab. = Abstract; **.ab,ti.** = Abstract or title; **.af.** = All fields; **Exp** = Term from the Medline controlled vocabulary, including terms found below this term in the MeSH hierarchy; **.sh.** = Term from the Medline controlled vocabulary; **.ti.** = Title; **/** = Term from the Medline controlled vocabulary, but does not include terms found below this term in the MeSH hierarchy; ***** = Focus (if found in front of a MeSH-term); *** or \$** = Truncation (if found at the end of a free text term); **.mp** = Text, heading word, subject area node, title; **" "** = Citation Marks; searches for an exact phrase; **ADJn** = Positional operator that lets you retrieve records that contain your terms (in any order) within a specified number (n) of words of each other.

PROSPERO via CRD 14 September 2021

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis gravidarum	
1. MeSH DESCRIPTOR Hyperemesis Gravidarum EXPLODE ALL TREES	6
Population: severe nausea during pregnancy	
2. MeSH DESCRIPTOR pregnancy	3796
3. MeSH DESCRIPTOR Vomiting EXPLODE ALL TREES	104
4. MeSH DESCRIPTOR Vomiting EXPLODE ALL TREES	90
Combined sets	
5. 3 OR 4	105
6. 5 AND 2	10
Final result	
7. 1 OR 6	10

PsycInfo via EBSCO 14 June 2022

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis gravidarum	
8. TX Hyperemesis gravidarum OR (TX hyperemesis AND TX (pregnanc* OR obstet* OR antenatal OR prenatal OR "ante natal" OR "pre natal"))	158
Population: severe nausea during pregnancy	
9. ((DE "Pregnancy" OR DE "Adolescent Pregnancy" OR DE "Primipara")) AND ((DE "Vomiting") OR (DE "Nausea"))	161
10. TI(pregnan* OR antenatal OR prenatal OR "ante natal" OR "pre natal")) AND TI(nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic OR retch* OR dry heave OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting)	69
11. (TX pregnan* OR antenatal OR prenatal OR "ante natal" OR "pre natal")) N5 (TX nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic OR retch* OR dry heave OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting)	229
Final result	
12. 1 OR 2 OR 3 OR 4	357

The final search result, usually found at the end of the documentation, forms the list of abstracts.

AB = Abstract; **AU** = Author; **DE** = Term from the thesaurus; **MH**= Exact Subject Heading from CINAHL Subject Headings; **MM** = Major Concept; **TI** = Title; **TX** = All Text. Performs a keyword search of all the database's searchable fields; **ZC** = Methodology Index; * = Truncation; " " = Citation Marks; searches for an exact phrase; **N** = Near Operator (N) finds the words if they are a maximum of x words apart from one another, regardless of the order in which they appear.; **W** = Within Operator (W) finds the words if they are within x words of one another, in the order in which you entered them.

Scopus via Elsevier 14 June 2022

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Population: Hyperemesis Gravidarum	
1. TITLE-ABS-KEY ("Hyperemesis Gravidarum")	
2. TITLE-ABS-KEY (((hyperemesis) W/10 (pregnan* OR obstetric* OR antenatal OR prenatal OR "ante natal" OR "pre natal")))	970
3. 1 OR 2	3,370
Population: severe or intractable nausea and vomiting	
4. TITLE-ABS-KEY ((pregnan* OR antenatal OR prenatal OR "ante natal" OR "pre natal") W/5 (nause* OR sickness OR vomit* OR emesis OR hyperemesis OR antiemetic* OR retch* OR "dry heave" OR heaving OR ptyalism OR hypersalivat* OR sialorrh* OR spitting))	3,077
Combined sets	
5. 3 OR 4	5,202
6. 5 AND NOT INDEX(<i>medline</i>)	1,593
Final result	
7. 6 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "re") OR LIMIT-TO (DOCTYPE , "er")) AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Norwegian") OR LIMIT-TO (LANGUAGE , "Swedish"))	1006

The final search result, usually found at the end of the documentation, forms the list of abstracts.

TITLE-ABS-KEY = Title or abstract or keywords; **ALL** = All fields; **PRE/n** = "precedes by". The first term in the search must precede the second by a specified number of terms (n).; **W/n** = "Within". The terms in the search must be within a specified number of terms (n) in any order.; * = Truncation; " " = Citation Marks; searches for an exact phrase; **LIMIT-TO (SRCTYPE, "j"** = Limit to source type journal; **LIMIT-TO (DOCTYPE, "ar"** = Limit to document type article; **LIMIT-TO (DOCTYPE, "re"** = Limit to document type review



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Scopus via Elsevier (citation search) 14 June 2022

Title: Treatment of Hyperemesis Gravidarum/ Severe Nausea during Pregnancy

Search terms	Items found
Cited articles	
8. PMID(1988321 OR 2047064 OR 9065130 OR 9790371 OR 10592423 OR 11027909 OR 11213010 OR 14662211 OR 15004444 OR 16170293 OR 16522418 OR 16957638 OR 17645494 OR 19077388 OR 20410771 OR 23232754 OR 23724526 OR 24807340 OR 25198263 OR 26212603 OR 26963896 OR 27821979 OR 28418209 OR 29222135 OR 32356413 OR 33133791 OR 33451591)	24 ²
Citing articles	
9. #1 View cited by	736

The final search result usually found at the end of the documentation forms the list of abstracts.

TITLE-ABS-KEY = Title or abstract or keywords; **ALL** = All fields; **DOI** = Digital Object Identifier; **EID** = Document identifier in Scopus; **PMID** = PubMed Identifier; **PRE/n** = "precedes by". The first term in the search must precede the second by a specified number of terms (n).; **W/n** = "Within". The terms in the search must be within a specified number of terms (n) in any order.; * = Truncation; " " = Citation Marks; searches for a phrase; ? = replaces one letter; **LIMIT-TO (SRCTYPE OR "j"** = Limit to source type journal; **LIMIT-TO (DOCTYPE OR "ar"** = Limit to document type article; **LIMIT-TO (DOCTYPE OR "re"** = Limit to document type review

Articles used in forwards citation searching

1. Guttuso T, Jr., Messing S, Tu X, Mullin P, Shepherd R, Strittmatter C, et al. Effect of gabapentin on hyperemesis gravidarum: a double-blind, randomized controlled trial. *American Journal of Obstetrics and Gynecology* MFM 2021;3.
2. Mitchell-Jones N, Farren JA, Tobias A, Bourne T, Bottomley C. Ambulatory versus inpatient management of severe nausea and vomiting of pregnancy: A randomised control trial with patient preference arm. *BMJ Open* 2017;7.
3. McParlin C, Carrick-Sen D, Steen IN, Robson SC. Hyperemesis in Pregnancy Study: A pilot randomised controlled trial of midwife-led outpatient care. *European Journal of Obstetrics and Gynecology and Reproductive Biology* 2016;200:6-10.
4. Nelson-Piercy C, Fayers P, De Swiet M. Randomised, double-blind, placebo-controlled trial of corticosteroids for the treatment of hyperemesis gravidarum. *British Journal of Obstetrics and Gynaecology* 2001;108:9-15.
5. Fischer-Rasmussen W, Kjær SK, Dahl C, Asping U. Ginger treatment of hyperemesis gravidarum. *European Journal of Obstetrics and Gynecology and Reproductive Biology* 1991;38:19-24.
6. Habek D, Barbir A, Habek JČ, Jančuljak D, Bobić-Vuković M. Success of acupuncture and acupressure of the Pc 6 acupoint in the treatment of hyperemesis gravidarum. *Forschende Komplementärmedizin und Klassische Naturheilkunde* 2004;11:20-23.
7. Sahakian V, Rouse D, Sipes S, Rose N, Niebyl J. Vitamin B6 is effective therapy for nausea and vomiting of pregnancy: A randomized, double-blind placebo-controlled study. *Obstetrics and Gynecology* 1991;78:33-36.

² Citation search is based on the articles included after main search. 31 articles was included, 24 had PMID-number.

8. Kashifard M, Basirat Z, Kashifard M, Golsorkhtabar-Amiri M, Moghaddamnia A. Ondansetron or metoclopramide? Which is more effective in severe nausea and vomiting of pregnancy? A randomized trial double-blind study. *Clinical and Experimental Obstetrics and Gynecology* 2013;40:127-130.
9. Tan PC, Yow CM, Omar SZ. A placebo-controlled trial of oral pyridoxine in hyperemesis gravidarum. *Gynecologic and Obstetric Investigation* 2009;67:151-157.
10. Carlsson CPO, Axemo P, Bodin A, Carstensen H, Ehrenroth B, Madegård-Lind I, et al. Manual acupuncture reduces hyperemesis gravidarum: A placebo-controlled, randomized, single-blind, crossover study. *Journal of Pain and Symptom Management* 2000;20:273-279.
11. Tan PC, Norazilah MJ, Omar SZ. Dextrose saline compared with normal saline rehydration of hyperemesis gravidarum: A randomized controlled trial. *Obstetrics and Gynecology* 2013;121:291-298.
12. Neri I, Allais G, Schiapparelli P, Blasi I, Benedetto C, Facchinetti F. Acupuncture versus pharmacological approach to reduce Hyperemesis gravidarum discomfort. *Minerva Ginecologica* 2005;57:471-475.
13. Shin HS, Song YA, Seo S. Effect of Nei-Guan point (P6) acupressure on ketonuria levels, nausea and vomiting in women with hyperemesis gravidarum. *Journal of Advanced Nursing* 2007;59:510-519.
14. Adlan AS, Chooi KY, Mat Adenan NA. Acupressure as adjuvant treatment for the inpatient management of nausea and vomiting in early pregnancy: A double-blind randomized controlled trial. *Journal of Obstetrics and Gynaecology Research* 2017;43:662-668.
15. McCarthy FP, Murphy A, Khashan AS, McElroy B, Spillane N, Marchocki Z, et al. Day care compared with inpatient management of nausea and vomiting of pregnancy: A randomized controlled trial. *Obstetrics and Gynecology* 2014;124:743-748.
16. Heazell A, Thorneycroft J, Walton V, Etherington I. Acupressure for the in-patient treatment of nausea and vomiting in early pregnancy: A randomized control trial. *American Journal of Obstetrics and Gynecology* 2006;194:815-820.
17. Safari HR, Fassett MJ, Souter IC, Alsulyman OM, Goodwin TM. The efficacy of methylprednisolone in the treatment of hyperemesis gravidarum: A randomized, double-blind, controlled study. *American Journal of Obstetrics and Gynecology* 1998;179:921-924.
18. Tan PC, Khine PP, Vallikkannu N, Omar SZ. Promethazine compared with metoclopramide for hyperemesis gravidarum: A randomized controlled trial. *Obstetrics and Gynecology* 2010;115:975-981.
19. Yost NP, McIntire DD, Wians Jr FH, Ramin SM, Balko JA, Leveno KJ. A randomized, placebo-controlled trial of corticosteroids for hyperemesis due to pregnancy. *Obstetrics and Gynecology* 2003;102:1250-1254.
20. Abas MN, Tan PC, Azmi N, Omar SZ. Ondansetron compared with metoclopramide for hyperemesis gravidarum: A randomized controlled trial. *Obstetrics and Gynecology* 2014;123:1272-1279.
21. Tan PC, Abdussyukur SA, Lim BK, Win ST, Omar SZ. Twelve-hour fasting compared with expedited oral intake in the initial inpatient management of hyperemesis gravidarum: a randomised trial. *BJOG: An International Journal of Obstetrics and Gynaecology* 2020;127:1430-1437.
22. Sullivan CA, Johnson CA, Roach H, Martin RW, Stewart DK, Morrison JC. A pilot study of intravenous ondansetron for hyperemesis gravidarum. *American Journal of Obstetrics and Gynecology* 1996;174:1565-1568.
23. Fletcher SJ, Waterman H, Nelson L, Carter LA, Dwyer L, Roberts C, et al. Holistic assessment of women with hyperemesis gravidarum: A randomised controlled trial. *International Journal of Nursing Studies* 2015;52:1669-1677.
24. Bondok RS, El Sharnouby NM, Eid HE, Abd Elmaksoud AM. Pulsed steroid therapy is an effective treatment for intractable hyperemesis gravidarum. *Critical Care Medicine* 2006;34:2781-2783.