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haemocoagulase agkistrodon HCA he iv f ff ó o

2020YFC2008305

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Tel 010 85133620 Tel 010 82805019

[1-3]

[4]

[5]

haemocoagulase agkistrodon HCA

HCA

2008

HCA 15 ~ 20 min

1 min 2 U

HCA

[6]

100

2019 399

HCA 232 78

63 26 [7]

32 202 HCA

2020

1. 00‰

0. 09‰

[8] HCA

health technology assessment HTA

HTA

[9-11]

HTA HCA

HTA

systematic review SR / Meta

randomized controlled trials RCTs

HCA

The Cochrane Library Embase Pubmed CBM CNKI CRDWeb

ISTAHC INAHTA HTAi

“ ” “Haemocoagulase Agkistrodon ”

2023 5

AMSTAR 2 SR/Meta [12] CHEERS

[13] Cochrane

RCT [14]

INAHTA HTA checklist HTA [15]

HTA SR/Meta RCT

176

65

28 SR/Meta 2

4 RCTs 22

1

SR/Meta

1

2 ~ 3 RCTs 4 RCTs 3 RCTs 2
2 ~ 3 Meta [16-17] 1 RCT [37] HCA

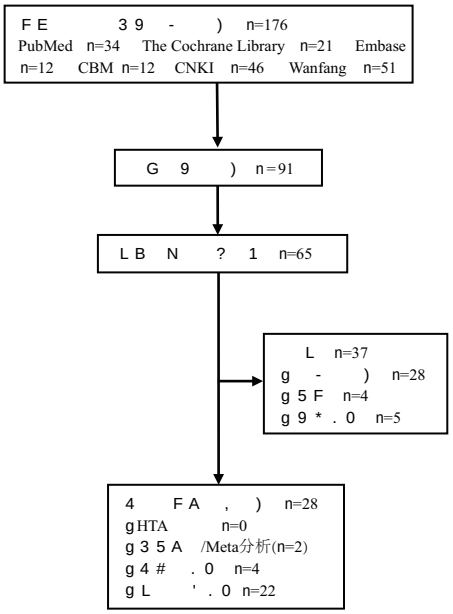
2 HCA
Meta 16 RCTs $P < 0.05$
2 Meta [16-17] 14 2 RCTs [30] HCA
RCTs [22-27 31 33 35 37-39 41-42] HCA $P > 0.05$

HCA
$P < 0.01$ 1 RCT [40] HCA
HCA
$P > 0.05$

2 Meta 14
RCTs 2
Meta [16-17] 12 RCTs [23-25 29 32-33 35 38-39 41-43]
HCA
HCA

$P < 0.01$ 2 RCT [34 40] HCA
HCA

$P > 0.05$
2 Meta



/Meta

							AMSTAR 2
					vs		
Shi [16]	2015	RCT	14	1 382	HCA	*vs*	
Xu [17]	2015	RCT	12	1 031	HCA	*vs*	

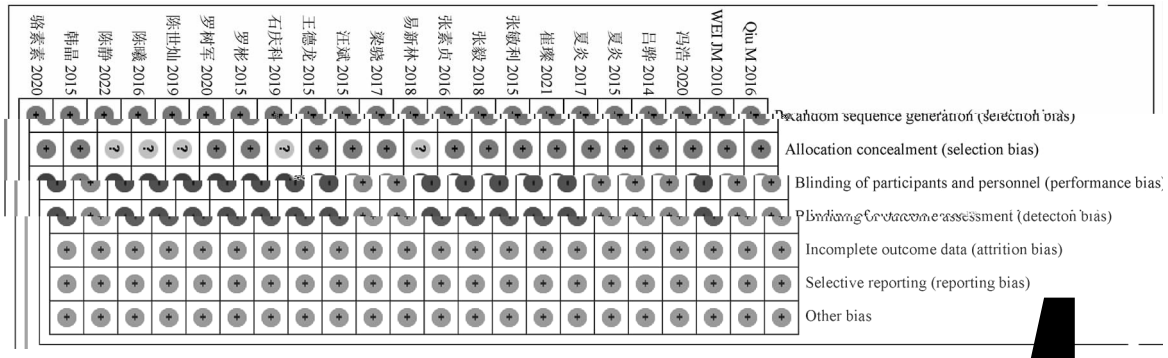
Shi [18]	2017				-	HCA	2U ivgtt *vs* HCA	2U + 1U ivgtt
Tan [19]	2020				-	HCA *vs*		
Xie [20]	2019				-	HCA *vs*		
Guo [21]	2016				-	HCA *vs*		

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Shi [18]	2017																								
Tan [19]	2020																								
Xie [20]	2019																								
Guo [21]	2016																								

1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 –
12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 –
20 – 21 – 22 – 23 – 24 –

		/		/							
Chen [22]	2022		45.4 ± 5.5	45.9 ± 5.3	50 28/22	50 27/23	HCA 2 U		iv	0.9% NS 2 mL	iv	①②③④⑤⑥⑦⑧
Han [23]	2015		18 ~ 80	18 ~ 80	30 NA/NA	30 NA/NA	HCA 2 U	iv		0.9% NS 2 mL	iv	①②③④⑦⑧⑨⑩⑪⑫⑬
Liang [24]	2017		45.9 ± 29.1	51.2 ± 22.7	30 10/20	30 11/19	HCA 2 U	iv		0.9% NS 2 mL	iv	①②③④⑤⑥⑦⑧⑨⑩⑪⑫⑬⑭
LÜ [25]	2014		18 ~ 80	18 ~ 80	30 NA/NA	30 NA/NA	HCA 2 U		iv	0.9% NS 2 mL iv		①②③④⑦⑧⑨⑩⑪⑫⑬
Xia [26]	2015		24 ~ 67	24 ~ 67	25 19/6	25 20/5	HCA 2 U	iv		0.9% NS 2 mL	iv	①②③④⑤⑥⑦⑧⑩⑪⑫⑬⑭⑮
Xia [27]	2017		24 ~ 67	24 ~ 67	25 17/8	25 19/6	HCA 2 U	iv		0.9% NS 2 mL	iv	①②③④⑤⑥⑦⑧⑩⑪⑫⑬⑭⑮
Yi [28]	2018		36 ~ 65	38 ~ 63	35 26/9	35 25/10	HCA 1 U	iv				①③④⑦⑮
Zhang [29]	2018		52.33 ± 9.76	51.8 ± 9.07	30 6/24	30 7/23	HCA 2 U			0.9% NS 2 mL		①③④⑨⑯
Wei [30]	2010		54.6 ± 13.4	56.2 ± 12.8	324 189/135	108 56/52	HCA 2 U	iv			2 U	①③④⑩⑪⑫⑬⑯
Chen [31]	2019	/	32.17 ± 3.33	32.15 ± 3.26	54 0/54	54 0/54	HCA 2 U	iv			2 mL	①③⑧⑩⑫⑬
Chen [32]	2016		56.73 ± 12.75	56.10 ± 16.63	30 19/11	30 12/18	HCA 2 U	4 h 1				①②③④⑤⑥⑨⑩⑫⑬⑯
Luo [33]	2015		≥18	≥								

2 3 d iv



HCA

$P<0.05$ 1 RCT[36] HCA

HCA

$P<0.05$

①

alanine transaminasease ALT 1 Meta

11 RCTs ALT 1

Meta[17] 10 RCTs[23-27 31-33 37 41] HCA

ALT

ALT

$P>0.05$ 1 RCT[30] HCA

ALT

ALT $P>$

0.05 ② glutamic pyruvic transaminase

AST 1 Meta[17] 1 RCT[32]

ALT HCA

AST

AST

$P>0.05$ ③ Total bilirubin TBIL

1 Meta 8 RCTs TBIL

1 Meta[17] 7 RCTs[23-27 33 41]

HCA TBIL

TBIL

$P>0.05$ 1 RCT[30]

HCA TBIL

TBIL

$P>0.05$

① creatinine Cre 1

Meta 11 RCTs Cre

1 Meta[17] 10 RCTs[23-27 31-33 37 41] HCA

Cre

Cre

$P>0.05$ 1 RCT[30] HCA

Cre

Cre

$P>0.05$ ② blood urea nitrogen BUN

1 Meta 11 RCTs BUN

RCTs APTT 1 Meta [17]
15 RCTs [22-29 31-33 35 37 42-43] HCA
APTT
APTT
$P > 0.05$ 4
RCTs [30 34 36 40] HCA
APTT
APTT $P > 0.05$
④ fibrinogen FIB
1 Meta 18 RCTs FIB
1 Meta [17] 14
RCTs [22-29 32-33 35 37 42-43] HCA
FIB
FIB $P > 0.05$
4 RCTs [30 34 36 40] HCA
FIB
FIB
$P > 0.05$

2020 6 663 [44] HCA
99%
snake venom thrombinlike enzymes SVTLEs [45] HCA
A Fibrinopeptide A FpA FpB
X Ⅲ [45-47] X
HCA [48]
2 SR/Meta 22 RCTs HCA

1

RCT [40] HCA
2 SR/Meta [16-17] 21 RCTs [22-39 41-43]
HCA
$P<0.01$ 2 RCTs [34 40]
$P>0.05$ 2 SR/Meta [16-17] 20 RCTs [22-33 35-39 41-43] HCA
$P<0.01$
2 RCTs [30 34]
$P>0.05$ 2 Meta [16-17] 1 RCT [37]
HCA
$P<0.05$
enhanced recovery after surgery ERAS
ERAS

RWS
HCA

$P<0.01$ ERAS [49]
HCA
HCA
30 min [50-52] 2019 399 [7]
32 202 HCA 2020 1.00‰ 0.09‰ [8]
HCA
HCA
I HCA
HCA
2.5 h [53]
ADRs
HCA
4
2 HCA 1 [19]
HCA
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[20]
HCA MMT
HCA
MMT
[54] 2 [18 21] HCA

HCA 2021
2023

HCA

ADR

1 FOWLER A J AHMAD T PHULL M K *et al*. Meta-analysis of the association between preoperative anaemia and mortalityafter surgery J . *Br J Surg* 2015 102 11 1314-1324.

2 VLAAR A P J JUFFERMANS N P. Transfusion-related acute lung injury a clinical review J . *Lancet* 2013 382 9896 984-994.

3 BOSBOOM J J KLANDERMAN R B ZIJP M *et al*. Incidence risk factors and outcome of transfusion-associated circulatory overload in a mixed intensive care unit population a nested case-control study J . *Transfusion* 2018 58 2 498-506.

4 KLEIN A A BAILEY C R CHARLTON A J *et al*. Asso of Anaesthetists guidelines cell salvage for peri-op conservation 2018 J . *Anaesthesia* 2018 73 9

5 LIU Y C DU T K ZHU H D *et al*. Expert c on emergency management of non-traumatic h *Chin J Emerg Med* 20 0- 856.

6 SHI G PANG J X KONG H Y *et al*. Evaluation of hemostatic effects of haemocoagulase Agkistrodon and the mechanisms J . *Chin J New Drug* 2013 22 11 1315-1319

7 QI Z GUO D H YAO C *et al*. The analysis of 399 AD ed with hemocoagulase and the risk signals mini *Appl Monit* 2019

8 YAO C GUO D H WANG C Y *et al* tors of allergic reaction related by ha odon for injection among 32203 patients by ce J . *Chin J Clin Pharmacol* 36 3 346-350.

9 LI Y P YU J J SUN X. Explorin d process of rapid review J . *Chin J Evid-Base* 2014 14 5 497-500.

10 ZHENG Z H JIN R F ZHANG Y T o assessment and the treatment of *He*

11 TANG H L MEN P ZHAI S D. g th method of rapid review on drugs J 2016 14 2 1-4.

12 GE L PAN B PAN J X *et al*. AMSTAR-2 A Quality Assessment Instrumen s Including Randomized or Non-randomized Both J . *Chin J Drug Eval* -338.

13 HUSEREAU D DRUMMOND M PETROU S *et al*. Consolidated health economic evaluation reporting standards CHEERS statement J . *J Med Econ* 2013 16 6 713-719.

14 CUMPSTON M LI T PAGE M J *et al*. Updated guidance for trusted systematic reviews a new edition of the cochrane handbook for systematic reviews of interventions J . *Cochrane Database Syst Rev* 2019 10 ED000142.

15 HAILEY D. Toward transparency in health technology assessment a checklist for HTA reports J . *Int J Technol Assess Health Care* 2003 19 1 1-7.

16 SHI H K LI X L LIN X F *et al*. Effects of hemocoagulase agkistrodon for hemostasis in surgical tresis vulnus a Meta-analysis J . *Chin J Pharmacoepidemiol* 2015 24 5 274-278.

17 XU J Y ZHU M W JIANG H *et al*. Efficacy and safety of hemocoagulase Agkistrodon injection for intraoperative hemostasis a systematic review and Meta-analysis J . *Chin J Gen Surg*

569.
30 WEI J M ZHU M W ZHANG Z T *et al*. A multicenter phase Ⅲ trial of hemocoagulase Agkistrodon hemostasis coagulation and safety in patients undergoing abdominal surgery J . *Chin Med J Engl* 2010 123 5 589-593.
31