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Component Blood Transfusion with Restrictive Fluid Resuscitation in Ectopic Pregnancy Hemorrhage with Hemorrhagic Shock

Ben Niu, Le Wang*

Department of Hematology, Shaanxi Provincial People's Hospital, Xi'an, Shaanxi Province 710068, China

***Corresponding author:** Le Wang, wangle.lewang@163.com

Abstract: *Objective:* To study the effect of using component blood transfusion with restrictive fluid resuscitation in ectopic pregnancy hemorrhage complicating hemorrhagic shock. *Methods:* 50 cases of ectopic pregnancy hemorrhage complicating hemorrhagic shock were selected for data study, and after grouping, 25 cases in each group were grouped, and the use of component blood transfusion with restrictive fluid resuscitation was used in the study group and restrictive fluid resuscitation was used in the control group, and the differences in the data were compared. *Results:* Compared with the control group, the study group had a significantly higher resuscitation success rate, significantly fewer complications, significantly higher hemodynamic indexes 2 h after treatment, significantly better coagulation function indexes, and significantly fewer various quantities in the therapeutic situation, $P < 0.05$. *Conclusion:* The use of component blood transfusion with restrictive fluid resuscitation in ectopic pregnancy hemorrhage-complicating hemorrhagic shock has an ideal effect.

Keywords: Component blood transfusion; Restrictive fluid resuscitation; Ectopic pregnancy; Hemorrhage; Hemorrhagic shock; Outcome

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1. Introduction

In clinical studies of ectopic pregnancy hemorrhage, a common complication is hemorrhagic shock. The condition is serious, threatening the patient's life safety. In the clinical treatment of patients, surgery and medication can be used to stop bleeding completely, and rapid rehydration is carried out for patients to promote the recovery of normal blood pressure. Clinical analysis found that the use of restrictive fluid resuscitation can actively target the patient's organism to carry out compensation [1], the patient's tissue and organ blood flow perfusion is properly restored, and the use of drugs will not affect the internal environment of the body, the compensatory mechanism, the patient's oxygen supply significantly improved, with the patient's immune response significantly improved [2], which can help the patient from the period of shock to pass through safely.

This group of experiments selected 50 cases to analyze the effect of using component blood transfusion with restrictive fluid resuscitation in ectopic pregnancy hemorrhage complicating hemorrhagic shock.

2. Information and methods

2.1. General information

Fifty patients with hemorrhage of ectopic pregnancy complicated by hemorrhagic shock were selected for data study. 25 patients in each group were grouped by lottery, study group: age 21–36 (28.55 ± 2.55) years old and the control group: age 22–35 (28.54 ± 2.54) years old. There was no significant difference in gender and age ($p > 0.05$).

2.2. Methods

In the control group using restrictive fluid resuscitation, the preparation of emergency surgery is properly done. 500 mL of hydroxyethyl starch and 1000–1500 mL of balancing fluid are prepared. The amount of crystal input is strictly controlled. After the speed of transfusion is regulated, the patient's bleeding is stopped.

In the study group, component blood transfusion with restrictive fluid resuscitation was added based on the intervention in the control group. The patient's bleeding volume of 1600–3000 mL, the red blood cell suspension was transfused, and the bleeding volume of more than 3000 mL, the crystal fluid, colloidal fluid, red blood cell suspension, fresh frozen plasma 10–15 mL/kg was transfused on time, and if the patient's fibrinogen was at 0.8 g/L, the cold precipitate, platelets, fresh frozen plasma for infusion, and platelets above 50 × 109/L for platelet infusion. After the patient returned to normal blood pressure, the hemostasis methods were uterine cavity filling, gauze surgery, uterine artery embolization, and so on.

2.3. Judgment criteria

Compare the resuscitation success rate, complications, hemodynamic indexes, coagulation function indexes, and various quantities in the treatment situation in the control and the study groups 2h after treatment.

2.4. Data examination

Using SPSS 25.0 software for calculation, expressed as rate (%) and mean ± standard deviation (SD). χ^2 test and *t*-test were implemented, and $P < 0.05$ was statistically significant.

3. Results

Compared with the control group, the study group had a significantly higher resuscitation success rate, significantly fewer complications, all hemodynamic indexes were significantly higher at 2 h after treatment, all coagulation function indexes were significantly better, and all kinds of quantities in the therapeutic situation were significantly less, $P < 0.05$.

Table 1. Comparison of the two groups resuscitation success rate and complications (%)

Group	Number of cases	Resuscitation success rate	ARDS	MODS	Complications
Study group	25 cases	23 (92.00)	1	1	2 (8.00)
Control group	25 cases	17 (68.00)	4	4	8 (32.00)
χ^2 value		4.5000			4.5000
P-value		< 0.05			< 0.05

Table 2. Comparison of hemodynamic indexes of the two groups 2h after treatment

Group	Number of cases	DBP (mmHg)	SBP (mmHg)	MAP (mmHg)	HR (times/min)	CVP (cmH2O)
Study group	25 cases	78.26 ± 7.99	93.27 ± 2.17	80.17 ± 7.25	85.28 ± 7.26	10.27 ± 2.51
Control group	25 cases	71.25 ± 7.67	89.78 ± 2.66	50.27 ± 8.41	80.08 ± 7.35	8.46 ± 2.35
t-value		3.1646	5.0832	13.4641	2.5167	2.6320
P-value		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Table 3. Comparison of coagulation indexes of the two groups

Group	Number of cases	TT (s)	FIB (g/L)	APTT (s)	PT (s)
Study group	25 cases	18.68 ± 2.85	2.91 ± 0.75	29.56 ± 2.84	11.84 ± 1.28
Control group	25 cases	20.62 ± 2.84	2.16 ± 0.78	32.17 ± 2.94	13.07 ± 1.52
t value		2.4109	3.4655	3.1925	3.0949
P-value		< 0.05	< 0.05	< 0.05	< 0.05

Table 4. Comparison of various volumes (mL) in the two treatment groups

Group	Number of cases	Total bleeding	Total blood transfusion	Total fluid transfusion
Study group	25 cases	1328.61 ± 52.17	1368.91 ± 396.61	2217.07 ± 419.26
Control group	25 cases	1836.26 ± 53.07	2118.27 ± 399.88	3107.27 ± 415.27
t value		34.1077	6.6526	7.5427
P-value		< 0.05	< 0.05	< 0.05

4. Discussion

Clinical practice has confirmed that the use of component blood transfusion with restrictive fluid resuscitation in ectopic pregnancy hemorrhage-complicating hemorrhagic shock can play the role of fluid resuscitation [3] to meet the normal blood supply to the patient's organs, with ideal hemostasis and appropriate restoration of perfusion to the patient's tissues and organs, to promote ideal resuscitation of the patient. Blood transfusion can supplement the patient's blood volume [4–7] and can help patients stop bleeding as soon as possible. The implementation of component blood transfusion can promote the patient's rapid hemostasis for the patient's condition to improve significantly [8–10]. Using this combined approach, the success rate of patient resuscitation is high, and the patient's hemodynamics is stable.

This group of experiments concluded that compared with the control group, the rescue success rate of the study group was significantly higher, with significantly fewer complications, the hemodynamic indexes of 2 h after treatment were significantly higher, the coagulation function indexes were significantly better, and all kinds of quantities in the therapeutic situation were significantly less, $P < 0.05$.

5. Conclusion

In conclusion, the effect of using component blood transfusion with restrictive fluid resuscitation in ectopic pregnancy hemorrhage-complicating hemorrhagic shock is ideal, the success rate of patient resuscitation is significantly higher, the complications are significantly fewer, the hemodynamic indexes are significantly

higher, the coagulation function indexes are significantly better, and all kinds of quantities in the therapeutic situation are significantly less, which is worthy of clinical promotion.

Disclosure statement

The authors declare no conflict of interest.

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