



Application of best evidence in prevention and treatment of contrast agent extravasation in CT examination

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Introduction

The incidence of contrast extravasation during CT examination, although low, is a very serious adverse event that can lead to ventricular septal syndrome, severe skin ulceration, and tissue necrosis. How to better manage security issues is the focus of attention.

Objective

To reduce the incidence of contrast extravasation in patients by applying the best evidence of prevention and treatment of contrast extravasation in CT.

Methods

Evidence-based nursing method was used to obtain evidence, and after localization, it was implemented in clinical practice. The examination standards of contrast agent extravasation were formulated in CT examination, clinical behavior was standardized, superficial vein angiography protective belt and angiography protective stent were designed, and the incidence of the best evidence application before and after contrast agent extravasation was compared, and the effect was judged.

Results

The incidence of contrast extravasation in CT examination was 0.137% in the third quarter of 2020, and decreased to 0.043% in the third quarter of 2021, and the difference was statistically significant ($P=0.005$). There were significant differences in the classification of blood vessels, the analysis of related factors of contrast agent extravasation, the improvement of prevention and treatment levels by medical staff.

Conclusion

Evidence-based practice can effectively solve the problem of contrast agent extravasation in CT examination, improve the prevention and management level of medical staff, and reduce the incidence of contrast agent extravasation.

Table 2 Prevention and management of contrast extravasation by nursing staff in imaging center before and after evidence application

Time	cases	Vascular classification knowledge		Knowledge of drug extravasation grading		Indwelling needle selection		Correlation factor analysis	
		cases	percentage (%)	cases	percentage (%)	cases	percentage (%)	cases	percentage (%)
Evidence before application	19	5	26.32	9	47.37	8	42.11	3	15.79
Evidence after application	19	18	94.74	19	100	15	78.95	14	73.68
χ^2		18.614		13.571		5.397		12.880	
P		<0.001		<0.001		0.020		<0.001	