



ANESTHESIA QUALITY ASSESSMENT IN KOREA

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INTRODUCTION

- Anesthesia is a medical practice that induces a patient's temporary state of sedation and is accompanied by rapid fluctuations in the vital signs of the human body, which can seriously affect the patient's prognosis in the event of complications or medical accidents.
- According to an Analysis of Anesthesia-related Medical Disputes in the 2009-2014 period using Korean Society of Anesthesiologists Database, 42.9% of anesthesia accidents could have been prevented with standard anesthesia management. However, in Korea, there is a lack of anesthesia-related medical service quality management and patient safety management measures.
- Accordingly, Health Insurance Review and Assessment Service(HIRA) introduced the Anesthesia quality assessment in 2018.

AIM

- HIRA conducts Anesthesia Quality Assessment conducts to improve the quality of medical care in the anesthesia area and lay the foundation for the safety management of anesthetized patients.

METHOD

- To conduct Anesthesia Quality Assessment, medical institution-level data(medical personnel, facilities, equipment), and patient-level data for 3 months (1st: from October to December 2018, 2nd: from January to March 2021) from tertiary general hospitals, general hospitals, and Special hospitals were collected in the form of a questionnaire.
- The index of Anesthesia quality assessment consists of a total of 7 indicators.
- Structural indicators(3)** : average monthly anesthesia hours per anesthesiologist, operation of the recovery room, number of types of special equipment in the anesthesiology department
- Process indicators(3)** : presence of anesthetic medication-related management activities, pre-anesthesia patient evaluation rates, measurement rate of nausea and vomiting, and pain scores in the recovery room
- Result indicator(1)** : percentage of patients maintaining normal body temperature (35.5°C or higher) during and after anesthesia
- Results for each index were calculated using the collected questionnaires, medical institution status report data reported to HIRA, and HIRA claims data. A weight was applied to the results for each index to calculate a comprehensive score and assign a grade.

RESULTS

As a result of comparing the index scores of 307 institutions of tertiary general hospitals, general hospitals, which were evaluated twice consecutively, the six indicator scores improved compared to the first assessment (excluding the presence of anesthetic medication-related management activities). In particular, in tertiary general hospitals, the monthly anesthesia hours per anesthesiologist decreased by 11.9 hours, leading to an appropriate supply of anesthesia medical services. In general hospitals, the number of institutions operating recovery rooms increased by 14.2%p, improving the safety of patients recovering after anesthesia.

- Structural indicators(3)**
The average monthly anesthesia hours per anesthesiologist decreased by 7.9 hours (155.5 hours → 147.6 hours) compared to the first assessment, the operation of the recovery room and the number of types of special equipment in the anesthesiology department increased by 13.1%p (60.8% → 73.9%) and 0.9 types (4.6 types → 5.5 types), respectively, compared to the first assessment.
- Process indicators(3)**
The pre-anesthesia patient assessment rate and the measurement rate of nausea and vomiting and pain scores in the recovery room increased by 1.1%p (96.4%→97.5%) and 3.9%p (94.3%→98.2%), respectively, and the presence of anesthetic medication-related management activities decreased by 2.2%p (73.5%→71.3%) compared to the first assessment.
- Result indicator(1)**
The proportion of patients maintaining normal body temperature (35.5°C or higher) during and after anesthesia increased by 6.7%p (87.0% → 93.7%) compared to the first assessment.

Anesthesia quality assessment result by Indicators

indicators		All medical institutions ¹⁾			tertiary general hospitals		general hospitals	
		1st(A)	2nd(B)	B-A	1st	2nd	1st	2nd
Structural indicators	average monthly anesthesia hours per anesthesiologist(hours)	155.5	147.6	7.9↓	183.2	171.3	133.5	126.0
	operation of the recovery room ²⁾ (%)	60.8	73.9	13.1↑	100.0	100.0	55.3	69.5
	number of types of special equipment in the anesthesiology department(type)	4.6	5.5	0.9↑	7.0	7.0	4.3	5.2
Process indicators	presence of anesthetic medication-related management activities(%)	73.5	71.3	2.2↓	100.0	100.0	69.9	66.4
	pre-anesthesia patient evaluation rates(%)	96.4	97.5	1.1↑	100.0	100.0	95.2	96.6
	measurement rate of nausea and vomiting, and pain scores in the recovery room(%)	94.3	98.2	3.9↑	100.0	100.0	92.6	97.5
Result indicator	percentage of patients maintaining normal body temperature (35.5°C or higher) during and after anesthesia(%)	87.0	93.7	6.7↑	98.0	99.8	82.8	91.1

1) Medical institutions evaluated twice in a row

2) The recovery room must meet all detailed standards(medical personnel, facilities, equipment)

CONCLUSIONS

- Through the assessment of anesthesia adequacy, the overall status of personnel, facilities, equipment, and patient management has been improved.
- HIRA discloses the evaluation results to improve the quality of anesthesia medical service, analyzes the assessment results of low-graded institutions, and provides information and counseling for improvement.
- In order to improve medical quality in the field of anesthesia in the future, it will be necessary to expand the evaluation target to small and medium-sized hospitals with poor safety management of anesthesia patients.

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REFERENCES

- Health Insurance Review & Assessment Service (2022), Anesthesia quality assessment result report in 2021.
- Health Insurance Review & Assessment Service (2020), Anesthesia quality assessment result report in 2018.