Title: **MMS: A SCREENING TEST FOR ELDERLY OUTPATIENTS.**
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Introduction. Of patients undergoing cataract operation, 3.3% developed postoperative psychiatric reactions (1). An increasing bed shortage has made it popular to do cataract operations on a day bed basis. 35.5% of patients were shown to have perioperative cognitive impairment (2). This study was done to assess the mental recovery of elderly versus younger patients post-cataract operation under local anesthesia and sedation, and the predictive value of Mini-Mental State (MMS) (3) as a screening test for outpatients.

Method. The study was approved by the Human Experimental Committee. 116 alert and oriented patients, scheduled to undergo cataract operation under local anesthesia and sedation, participated in the study. Informed consent was obtained. Mental function was assessed preoperatively, and at 6 and 24 hours (h) postoperatively. MMS concentrates on the cognitive aspects of mental function such as orientation, registration, attention and calculation, recall and language. The maximum score is 30 points, with 23 points being the cutoff for cognitive impairment. A retrobulbar block and intravenous sedation with fentanyl, droperidol, and diazepam were given as supplements. Comparison within groups between the preoperative MMS score, the 6 h and 24 h postoperative score was done by Student’s t-test. Comparison of the preoperative score between the older and the younger groups was done by analysis of variance, and the difference in postoperative score between the two groups by analysis of covariance. A step-wise regression was done to determine the affect of age, preoperative score and intravenous sedation on the change in postoperative score. P<0.05 was considered statistically significant.

Results. 91 patients were older than 60 years, and 25 were younger than 60. The mean age of the older group was 74.6 ± 7.9, and the younger group was 47.5 ± 10.7. There was no statistically significant difference between the two groups in sex, weight, or ASA class. The preoperative MMS score was significantly lower in the older versus the younger group (Table 1). At 6 h postop, there was a significant decrease in MMS score in both groups, but the decrease in score in the elderly was more significant. By 24 h, MMS scores returned to normal in both groups. Using a MMS score of 23 or less to separate those with cognitive impairment from those without preop, 18.7% of the older group had cognitive impairment while none in the younger group had any impairment (Fig. 1). At 6 h postoperatively, 29.7% of the elderly group had cognitive impairment compared with 4% of the younger group. Regression analysis indicated that the older patients were more likely to demonstrate a lower 6 h and 24 h score (p<0.003). A binary variable indicating whether the patient had a score above or below 23 preoperatively was used to determine if low baseline scores were associated with lower 6 h and 24 h scores. Baseline score and age were found to be significant predictors (p<0.004) of the 6 h score, and 24 h score.

![Table 1. Mini-Mental State (MMS) Score](image)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>≥ 60</th>
<th>&lt; 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preop MMS</td>
<td>26.0 ± 0.6</td>
<td>(p&lt;0.0001)</td>
</tr>
<tr>
<td>6 hrs MMS</td>
<td>23.7 ± 0.5</td>
<td>(p&lt;0.0001)</td>
</tr>
<tr>
<td>24 hrs MMS</td>
<td>26.4 ± 0.5</td>
<td>(p&lt;0.0001)</td>
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</tbody>
</table>

* between group ANOVA
** within group t-test
* between group ANCOVA

Fig. 1 % of younger and elderly patients with cognitive impairment

**Discussion.** Age and baseline preoperative MMS scores were found to be significant predictors of the 6 h and 24 h scores. The patients who were older and the preoperative MMS score < 23 were more likely to demonstrate a lower score at 6 and 24 h postoperatively. MMS should be used as a screening preoperative test for geriatric outpatients, and identifies those at risk.