A RE-EVALUATION OF ANTICHOLINERGIC PREMEDICATION

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PATIENTS PREMEDITATED with intramuscular anticholinergic drugs (e.g. atropine or hyoscine) often arrive in the operating room with an uncomfortably dry mouth. The optimal timing of intramuscular anticholinergic premedication is often difficult to achieve because of changes in proposed operating times and schedules. The intravenous administration of anticholinergic drugs at the time of anaesthetic induction overcomes these two problems. The purpose of this study is to compare the effectiveness in controlling secretions of an anticholinergic given intravenously at induction with that given intramuscularly as premedication on the ward.

METHOD

A total of 120 healthy adult female patients scheduled for minor gynaecological operations were studied. Most were day cases. The types of surgical procedures are indicated in Table I.

The patients were divided randomly into two groups. One group of 58 patients received only atropine 0.6 mg intramuscularly as premedication on the ward. The other group of 62 patients received no premedication on the ward but got atropine 0.6 mg intravenously a few minutes before anaesthesia was induced. The following questions were asked from all patients before induction of anaesthesia:

1. How does your mouth feel, wet, dry, or normal?
2. Does your mouth feel comfortable?

The anaesthetic technique consisted of a sleep dose of thiopentone followed by nitrous oxide, oxygen and halothane given through a face mask. The average duration of anaesthesia was 35 minutes with a range from 20 to 50 minutes. During the period between induction and recovery from anaesthesia special note was made of the amount of oral secretions, whether minimal or excessive, as well as the occurrence of coughing or laryngospasm. The heart rates were also recorded.

RESULTS

The answers to the pre-induction questions are seen in Table II. No patient complained of a wet mouth.

Of the 58 patients who received atropine intramuscularly on the ward, 57 patients (98.3 per cent) complained of dry mouth. Out of these 57 patients, 50 patients (87.7 per cent) claimed the dryness was uncomfortable. Among the group of 62 patients that received atropine at induction, only two patients (3.2 per cent) complained of dry mouth and none of them claimed that this was uncomfortable.

The observations made during anaesthesia are listed in Table III.

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TABLE I

Surgical Procedure	No. of patients
Dilatation and curettage (D. & C.)	74
Hydrointubation	19
Cystoscopy and fitting of applicators for caesium insertion	27
Total	120

TABLE II

	Atropine I.M. Premedication		Atropine I.V. at Induction	
	No. of patients	%	No. of patients	%
Mouth felt dry	57	98.3	2	3.2
Mouth felt normal	1	1.7	60	96.8
Total	58	100%	62	100%

TABLE III

	Atropine I.M. premedication		Atropine I.V. at induction	
	No. of patients	%	No. of patients	%
Excessive oral secretions	2	3.4	3	4.8
Coughing during anaesthesia	2	3.4	2	3.2
Laryngospasm	1	1.7	1	1.6

DISCUSSION

The use of anticholinergic premedication originated from the desire to minimize the often excessive oral and respiratory tract secretions encountered during open-drop ether anaesthesia.¹ Recently the need for anticholinergic premedication has been questioned, especially with the use of anaesthetic agents and techniques which are not so irritating to the respiratory tract.² However, a recent clinical report has indicated that anticholinergic premedication definitely improved anaesthetic conditions.³ In their double-blind study Yale and Barry found that 97.6 per cent of the unsatisfactory anaesthetic ratings in the patients that did not receive an anticholinergic drug were due to excessive secretions and associated problems such as coughing and laryngospasm.

The present study was done to compare the effect of atropine given intramuscularly as premedication with atropine given intravenously at induction. The result has shown that the two methods are equally satisfactory in preventing excessive secretions. However, since atropine given intravenously at induction does not give the uncomfortably dry mouth associated with intramuscular atropine given as premedication on the ward, the intravenous route of administration is preferable. The

intravenous route at induction also gets over the problem of timing sometimes encountered with the intramuscular premedication. Moreover, patients are saved an extra needle injection, a matter much appreciated by patients. It is the opinion of the author, therefore, that intramuscular anticholinergic premedication on the ward should be replaced by the intravenous route at induction except in cases where administration may be difficult (e.g. in small or obese children).

SUMMARY

One hundred and twenty healthy Nigerian female patients undergoing minor gynaecological operations were divided randomly into two groups. One group of 58 patients received intramuscular atropine as the only premedication on the ward while the other group of 62 patients received their atropine intravenously at the time of induction of anaesthesia. Anaesthesia was induced with thiopentone and maintained with nitrous oxide, oxygen, and halothane using a facemask.

There was equally satisfactory control of secretions in both groups. However, due to the occasional difficulties in achieving optimal timing of intramuscular atropine as well as the uncomfortably dry mouth complained of by 87.7 per cent of the patients who had intramuscular atropine, the intravenous administration at induction is to be preferred. Moreover, one saves the patient an extra injection.

RÉSUMÉ

Cent vingt Nigériennes en bon état général, soumises à des interventions gynécologiques, ont été réparties au hasard en deux groupes. Toutes ont reçu de l'atropine comme unique agent de prémédication. Les patients du premier groupe ont reçu cet agent par voie intramusculaire, sur appel. Celles du second groupe l'ont reçu par voie intraveineuse avant l'induction de l'anesthésie.

Nous n'avons pas eu de problèmes de sécrétions avec les patientes de l'un et de l'autre groupe.

Comme l'on a parfois de la difficulté à bien synchroniser le moment optimum de l'administration de l'atropine et que 87 pour cent des patients ainsi traités accusent une sécheresse de la bouche, nous préférons une administration intraveineuse au moment de l'induction. Un autre avantage pour le patient est qu'il reçoit une injection de moins.

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