BRONCHUS TUBE AND BRONCHUS BLOCKER

BY

ROBERT MACINTOSH AND R. A. L. LEATHERDALE
The Nuffield Department of Anaesthetics, University of Oxford

THIS preliminary communication is not concerned with the indications for one-lung anaesthesia, but describes a means of allowing this to be carried out. We believe the method offers the following advantages:

(1) Once in position the endobronchial tube (fig. 1) or the endobronchial blocker (fig. 2) is not dislodged easily since it is tailor made: its shape conforms closely to the course of the trachea and left main bronchus.

FIGURES

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(2) The tube or the blocker can be passed "blindly", i.e., without the help of a bronchoscope.

(3) A small tube (A in figs. 1 and 2) is incorporated which can be used either to aspirate secretions from the non-functioning lung or to distend it with oxygen, at the surgeon's request, to facilitate dissection.

**Endotracheal tube**

If the right lung is to be operated on the shaped tube is passed into the left main bronchus (fig. 3).

Thiopentone and a short-acting relaxant are administered and the larynx and trachea sprayed with a topical analgesic solution. The tube is passed through the cords under direct vision, and the laryngoscope discarded. The tube is advanced when, because of its shape, it will probably enter the left bronchus, and comes to a stop when the angle of the tube is halted at the carina. The distal end of the tube now lies just short of the upper lobe bronchus (fig. 3). The endobronchial cuff is now inflated, and, if desired, the endotracheal cuff. Through the small tube (A in fig. 3) oxygen can be fed to the right lung, or secretions aspirated from it.

If the tip of the tube should enter the right and not the left bronchus, recourse is made to a firm rubber director (fig. 4) whose shape is based on Griffin's (1949) bronchial aspirator. The tube is withdrawn and eased over the director (fig. 5), the tip of which is guided into the left main bronchus. The tube is now pushed down into position, and the director is withdrawn.

**Endobronchial blocker** (Müllý and Hossli, 1955; Stürtzbecher, 1953)

When the left lung is to be operated on a cuffed endotracheal tube is used in which a blocker is incorporated: the latter is angulated so that it enters and lodges comfortably in the left main bronchus. When the cuff surrounding the blocker is inflated the left lung is isolated (fig. 6). When the anaesthetic bag is compressed only the right lung expands. The blocker, however, is hollow (A in fig. 6) and can be used either to supply oxygen to the left lung or to aspirate fluid from it.

This blocker has been used in two cases of bronchopleural fistula. It was passed and its position checked without difficulty under local analgesia alone.

As the type of blocker described here can be located without the help of a bronchoscope, it should be possible to use smaller sizes for children. A slight variation in design (lengthening of the tubing carrying the bronchus blocker) would make it possible to locate the cuff distal to the opening of the upper lobe bronchus.

The illustrations are diagrammatic: the finished articles are considerably more streamlined than indicated. They are obtainable from Messrs. Medical and Industrial Equipment Ltd., 10/12 New Cavendish Street, London, W.1.

The construction of the endobronchial tube and the blocker would not have been possible without the advice and help so freely given by Mr. R. W. Lunn, C.B.E., of the Leyland and Birmingham Rubber Company, and Mr. R. Salt of this Department.

**REFERENCES**

