COMMUNICATIONS TO THE EDITOR

Communications for this section will be published as space and priorities permit. The comments should not exceed 500 words in length, with a maximum of five references; one figure or table can be printed. Exceptions may occur under particular circumstances. Contributions may include comments on articles published in this periodical, or they may be reports of unique educational character. Specific permission to publish should be cited in a covering letter or appended as a postscript.

A New Therapeutic Application of the Fiberoptic Bronchoscope

To the Editor:

Since the initial description of fiberoptic bronchoscopy, its multiple diagnostic advantages have become well known. Recently, its therapeutic possibilities have also been discovered. This is a report of the successful closure of a bronchopleural fistula by means of a fiberoptic bronchoscope, using the tissue glue, methyl-2-cyanoacrylate (Histoacryl N Braun Melsungen).1

CASE REPORT

The patient is a 44-year-old white man who was followed up because of pulmonary fibrosis secondary to ankylosing spondylitis.2-4 An aspergilloma developed in his fibrotic right upper lobe and led to extensive clinical symptoms, with fever and loss of weight. At this time, his vital capacity was reduced to only 1,680 ml (33.4 percent of the predicted value).

An attempt was made to remove the aspergilloma by surgery. A thoracoplasty was performed, resecting the first to fifth ribs. On the fourth postoperative day, an increasing bronchopleural fistula developed, even though initially all bronchopleural connections had been closed in the very fragile tissue of the upper lobe. Complete collapse of the lung could be prevented by suction drainage; however, an increasing air leak led to clinical worsening, with dyspnea.

The possibility of a repeat surgical procedure with closure of the fistula was rejected because of high operative risk with small prospective chance of success. Scintiscans demonstrated that the upper lobes were no longer perfused; thus, we decided to definitely occlude the bronchi of the upper lobe.

The right upper lobe was sanded by means of a fiberoptic bronchoscope (Olympus 5B2) which had been introduced by the transnasal approach after local anesthesia. An attempt was made to remove the aspergilloma by surgery. A thoracoplasty was performed, resecting the first to fifth ribs. On the fourth postoperative day, an increasing bronchopleural fistula developed, even though initially all bronchopleural connections had been closed in the very fragile tissue of the upper lobe. Complete collapse of the lung could be prevented by suction drainage; however, an increasing air leak led to clinical worsening, with dyspnea.

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The right upper lobe was sanded by means of a fiberoptic bronchoscope (Olympus 5B2) which had been introduced by the transnasal approach after local anesthesia. Introduction of a rigid bronchoscope was impossible because of the stiffness of the cervical spine in this patient with ankylosing spondylitis. Albumin foam was injected under visual control into the right upper lobe. The rapid vanishing of the albumin foam demonstrated those segments with the highest air flow through the fistula. In a second session, these segments were occluded. This was achieved in the following way: a Teflon catheter was introduced through the instrumentation channel into the previously identified bronchi, and they were filled with tissue glue. A special difficulty consisted of the fact that solidification of the glue occurred in about 10 seconds. Therefore, rapid injection through the 70-cm Teflon catheter was necessary.

After the apical and the posterior upper bronchi had been filled in this way, a drastic improvement occurred. The dyspnea and the leak almost completely disappeared; however, during the next days the right upper posterior bronchus developed a new leak. This was occluded in an additional session using the same technique, which again led to a further clinical improvement. Even though a complete expansion of the lung was not achieved after the suction drainage was stopped, the residual cavity secondary to thoracotomy and thoracoplasty could be kept minimal.

DISCUSSION

This case demonstrates that the fiberoptic bronchoscope provides a useful therapeutic aid in desperate situations with bronchopleural fistulas, where improvement by surgical approach cannot be expected.

Dr. Wilfried Hartmann and Dr. Volker Rausch
Department Innere Medizin
Abteilung Pneumologie
Medizinische Hochschule Hannover
Krankenhaus Oststadt
Hannover, Federal Republic of Germany

Reprint requests: Dr. Hartmann, Podbielskistrasse 380, Oststadt Krankenhaus MHH, 3000 Hannover, Federal Republic of Germany

REFERENCES


The Flipped Pacemaker

Radiographic Diagnosis of a Cause of Malfunction of Rechargeable Pacemakers

To the Editor:

Previous literature has described the radiographic diagnosis of malfunction of the various battery-operated cardiac pacemakers.1 In response to the continuing search for cardiac pacemaker generators with increased in vitro longevity, a transcatheterly rechargeable power source was developed by the Applied Physics Laboratory of Johns Hopkins University.2 Since February 1973, approximately 4,000 such pacemakers (Pacesetter Systems, Inc.) have been implanted, with a highly satisfactory performance record and excellent patient accept-