position. The angle of the scraper blade, when raised, is approximately 100° (Fig 1). Together with the biopsied tissue obtained after several scratchings, the scraper is retracted and pulled back into the protected PE tubing. The size and the structure of the biopsied tissue is sufficient for microscopic examination (Fig 2). Indications and contraindications of this scraper are exactly the same as the ordinary forceps. Up until now, we have biopsied 20 chest disease cases with more than 50 scratchings. Of the 20 cases, six were of lung cancer and five of chronic bronchitis. These 11 cases were all accurately diagnosed by this scraper.

The advantages of the scraper can be summed up as follows: because of PE tubing, no excess force is needed when scraping, and side direction scraping at the tip segment rarely causes bleeding, no injury to surrounding tissue, rare infection and no pneumothorax after scraping. Causative microorganisms can be identified from the material obtained in the peripheral lung lesions, avoiding the antimicrobial action of the local anesthetic with fully protected PE tubing.

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Exit Block during "Common" Atrial Flutter: Convincing Proof for Focal Origin of the Arrhythmia

To the Editor:

Whether reentry, automaticity or both factors are responsible for atrial flutter is still a debated issue. Much evidence supports the role of reentry as a cause of "common" atrial flutter, but abnormal automaticity cannot be excluded. Rhythms induced by delayed afterdepolarization "triggered automaticity" can at times be terminated by single premature stimuli. This characteristic and the cycle length dependency of afterdepolarization-induced rhythms are also seen with reentrant rhythms and tend to provide a major problem in differentiating the two mechanisms using electrophysiologic pacing techniques.

Indeed, a recent clinical experience has suggested the reality of the triggered automaticity mechanism demonstrated by Cranefield in 1975. If microreentry always remains a possibility, even in the case of a "focal" tachycardia, its existence in human patients can only be suspected. Macroreentry should be easier to prove, particularly in the common type of flutter, by means of stimulation techniques, but the rapid atrial rate and the consequently short excitable period of the atrium make confirmation difficult. Our recent experience strongly supports that in some patients "common" atrial flutter may be due to an "automatic" ectopic mechanism.

Before and after amiodarone therapy a 38-year-old man was in "common" atrial flutter. The diagnosis of common atrial flutter was based on the following ECG criteria: regular atrial waves-sawtooth atrial waves, predominantly negative in L_{aVF}, L_{aVp}, aVF; atrial rate greater than 280/min-AV conduction ratio different from 1:1 either spontaneously or after carotid sinus massage. Long-term amiodarone therapy reduced the atrial rate of arrhythmia without changing P-wave morphology and axis and produced intermittent exit block. This strongly supported that the arrhythmia was due to an ectopic "automatic" focus that showed 1:1 and 2:1 focus to atrial conduction. The known effects of amiodarone on atrial refractoriness may have induced intermittent exit block from the focus. This appeared to be supported by the effects of carotid sinus massage, which converted 2:1 to 1:1 conduction, presumably by an effect of the vagus in shortening atrial refractory periods.

In man, atrial tachyarrhythmias interpreted to be "automatic" by a variety of criteria have been described, but remain incompletely characterized. The criteria include overdrive acceleration as response to pacing, inability of atrial stimulation to initiate or terminate episodes of arrhythmia, and the warm-up phenomenon.

These criteria, however, suggest a focus mechanism, but do not clarify if focus mechanism is due to enhanced automaticity or triggered activity. Unfortunately, the occurrence of exit block in atrial flutter is a very rare event but, when it occurs, we believe, it is the best proof we have for evidence of a "true" ectopic mechanism. Actually, it is very difficult to imagine how a reentrant circuit would be capable of sustaining reentry at such widely disparate rates. Indeed, a reentrant mechanism cannot account for 2:1 exit block in "reciprocating" atrial flutter, since the exit block occurrence would interrupt reciprocation, and terminate the arrhythmia. Exit block in "uncommon" atrial flutter has been previously reported in one patient with rheumatic heart disease. At least on two occasions, the initial rhythm appeared to be classic atrial flutter, but subsequent tracings showed a rate of exactly half that of the flutter rate recorded before.

Conclusions: Although circus movement is generally thought to be the primary mechanism for "common" atrial flutter, the development of exit block lends support to the hypothesis that an automatic focus is an alternative mechanism in some patients.

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