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A Randomized Controlled Trial of Electrocoagulation-Enabled Biopsy versus Conventional Biopsy in Diagnosis of Endobronchial Lesions

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We appreciate the comments and queries raised by Dr. Seifirad and thank him for the interest shown in our paper [1]. We wish to discuss the queries raised by him in a point-wise fashion.

As described in our methods section, we had obtained specimens from different patients using conventional (without application of electrocoagulation current, EC-) and electrocoagulation-enabled (with application of electrocoagulation current, EC+) biopsy and compared the specimen quality. However, as the pathologist was blinded to the patient's details and the randomization process, the point raised by Dr. Seifirad is not valid in this case. In fact, even the presence of fibrin and necrosis was not statistically significant between the two groups, causing no difficulty in making the pathological diagnosis. Also, the strength of a statistical test depends upon the probability values and confidence intervals and not upon whether it is paired or unpaired.

Bleeding from an endobronchial lesion continues even after the biopsy has been taken. Thus, if we had chosen the design of the study by Tremblay et al. [2], it would have been difficult to establish whether it was the first or the second 'bite' that contributed to the bleeding. Moreover, bleeding can continue for up to 48 h, and even longer, after endobronchial biopsy, making it difficult to decide which technique (EC+ vs. EC-) has contributed to

the bleeding. These issues guided us towards choosing a protocol in which the experimental technique is performed in alternate patients rather than alternating the biopsies in the same patient. However, we do agree with Dr. Seifirad that as none of the patients had any episode of major bleeding, we cannot comment on the equivalence of EC+ biopsy and EC- biopsy in individual high-risk cases. However, our study does confirm that EC+ biopsy is not required in a routine scenario. Further studies should include high-risk groups to evaluate the efficacy of EC+ biopsy.

Finally, there is no question of the current study going against medical ethics. One animal study and one clinical study did suggest that EC+ biopsy does not alter specimen results [2, 3]. Hence, no patient missed any chance of a gold standard. Unless further studies are conducted, how can one question the gold standard? The conclusions of our large randomized controlled trial along with the results of these previous studies further confirm that EC+ biopsy does not alter the specimen quality.

Financial Disclosure and Conflicts of Interest

The authors have no conflicts of interest to disclose.

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