

## LETTER TO THE EDITOR

# Arthrofibrosis after Anterior Cruciate Ligament Reconstruction: The Devil is in the Detail



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Dear editor,

We read with great interest the article by Rushdi *et al* in the November 2019 issue entitled “Arthrofibrosis Following Anterior Cruciate Ligament Reconstruction”<sup>1</sup>. In their paper, they review the complications of arthroscopic anterior cruciate ligament (ACL) reconstruction at two centers, with special emphasis on arthrofibrosis and its predisposing factors. While ACL reconstruction is one of the most commonly performed orthopaedic procedures in the world, the reported outcome of ACL reconstruction and its complications are scarce in Malaysia<sup>2</sup>. For this reason, authors should be applauded for their effort.

Nevertheless, there are a few important issues which should be addressed in this article. First and foremost, it is a relatively short duration of 6 months to assess the outcome of ACL reconstruction. In their study, authors claim that pre-operative limited motion, timing of surgery and female patients are correlated with arthrofibrosis, despite offering no data analysis to support this claim. Authors postulate that female patients are at a higher risk (16%) to develop arthrofibrosis after ACL reconstruction as compared to male counterpart (4%). With such a disproportionate male-to-female ratio (only 7% female included) in this study, any result must be interpreted with caution, preferably with univariate or even multivariate analysis. Similarly, the claim that patients who undergo earlier surgery is at a higher risk of arthrofibrosis does not hold water as there is only one patient who has undergone surgery at two weeks post-injury. For those who develop arthrofibrosis, five of them (62.5%) require arthroscopic arthrolysis at three months after ACL reconstruction. It is worth contemplating whether a short duration of follow-up (three months) after an arthroscopic arthrolysis is adequate in labelling those patients “healed”.

While authors should be commended for sharing their results, we are afraid that the article has wasted a chance to

be more meaningful by not adding more information and analysis.

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## RESPONSE TO LETTER TO EDITOR

Dear Dr,

Thank you for your letter to editor with title ‘Arthrofibrosis After ACL Reconstruction: The Devil is in the Detail’ regarding the article by Rushdi *et al* in the November 2019 issue entitled “Arthrofibrosis Following Anterior Cruciate Ligament Reconstruction”<sup>1</sup>.

We would like to give you our warmest regards regarding this letter to editor and thank you for your appraisal

regarding our effort. Firstly, we would like to enlighten that our study was mainly an observational study of case series on arthrofibrosis and its predisposing factors. This means that it is a descriptive study through data collection retrospectively and analysis using pre-existing, pre-operative limited motion<sup>2,3</sup> and female incidence<sup>2</sup>. The limitation of this study is relatively small sample size which we couldn't get sufficient samples to represent the population and does not allow us to do univariate and multivariate analysis due to inadequate power.

The issue that was questioned in the letter was regarding the relatively short duration of six months to assess the outcome of ACL reconstruction. We would like to emphasise that our study aims towards arthrofibrosis specifically<sup>1</sup>. Ideally, arthrofibrosis should be detected during early post-surgery follow up. Delay in detecting arthrofibrosis will cause delayed in management causing undesirable outcome<sup>4</sup>. We would like to clarify that all our patients were followed up more than six months and not three months as stated in your letter. In our study, three months is the period when we proceed with arthroscopic adhesiolysis procedure. This does not label patient as 'healed' as stated in the letter.

Regarding time of surgeries, Quelard *et al*<sup>2</sup>, Mayr *et al*<sup>3</sup>, Shelbourne *et al*<sup>4</sup>, Wasilewski *et al*<sup>5</sup>, Johnson *et al*<sup>6</sup> reported similar findings in which they found majority of arthrofibrosis occurred if the surgeries were done immediately after an acute knee injury, and post-operative motion recovery was significantly less comparing to those who have delayed surgery. Lastly, we hope that our findings will initiate more research to be conducted in this field. Ideally, a prospective and multi-centre study with larger sample size to represent our Malaysia population. Thank you.

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