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Research Article

Is There an Association between the RENAL and PADUA Nephrometry Scores and the Trifecta and Pentafecta Achievement?

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ABSTRACT

Background: RENAL and PADUA scoring systems have been designed and validated as a method to assess the complexity of renal masses and predict the risk of perioperative complications. We aimed to evaluate if there is an association between RENAL and PADUA nephrometry scores with the Trifecta and Pentafecta achievement.

Materials and Methods: We retrospectively analysed the data from 102 patients with renal cell carcinoma who underwent partial nephrectomy from January 2011 to October 2018 at our institution. Radiological characteristics of the renal masses were scored according to the RENAL and PADUA classification. Trifecta and Pentafecta achievement were collected. We performed a descriptive analysis and used de χ^2 test to evaluate the relationship between PADUA and RENAL scores and Trifecta and Pentafecta achievement.

Result: Among 102 patients, the median tumor size was 2.7 cm (IQR 0.8-7.5), the median RENAL score was 7 (IQR 4-11) and PADUA score 8 (IQR 6-14). The overall rate of postoperative complications was 21.6% (n=22). The rates of Trifecta and Pentafecta achievement were 50% (n=51/102) and 46.1% (n=47/102), respectively. Trifecta and Pentafecta achievement were higher when the PADUA score was ≤ 10 (OR 3.62; IC95% (1.08-12.11); p=0.0317) and (OR 4.98; IC95% (1.32-18.7); p=0.0175), respectively. Likewise, Trifecta and Pentafecta achievement were higher in patients with RENAL score ≤ 8 (OR 4.09; IC95% (1.46-11.42); p=0.0072) and (OR 4.92; IC95% (1.66-14.51); p=0.0039), respectively.

Conclusion: There is an association between the RENAL and PADUA nephrometry scores and the Trifecta and Pentafecta achievement.

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