Purpose: The authors of the present study investigated the correlations between the expression of claudin-1 and 7 in clear cell renal cell carcinoma (clear cell RCC) and clinical parameters.

Subjects and Method: The subjects of this study were 119 patients who were confirmed for clear cell RCC among 154 patients. Their tissues were immunohistochemically stained with claudin-1 and 7. The correlations between the expression of claudin and clinical parameters were analyzed.

Results: Among the total 119 subjects, claudin-1 was expressed in 18 (15.1%) and claudin-7 in 31 (26.1%). Claudin-1 was expressed in patients who were older (p=0.006), who had a greater tumor size (p=0.001), who had a higher preoperative T stage (p=0.044), who had preoperative distant metastasis (p=0.035), and who had a higher Furhman nuclear grade (p=0.004). The expression of claudin-1 was not associated with sex, BMI, or Furhman nuclear grade. Claudin-7 was expressed only in patients who had a higher Furhman nuclear grade (p=0.031), and it was not associated with other parameters. The risk of postoperative distant metastasis was associated with the expression of claudin-1 (p<0.001), but not to the expression of claudin-7. The expression of claudin-1 and 7 was not associated with cancer specific survival.

Conclusion: In clear cell RCC, claudin-1 was expressed in patients who were older and who had a greater tumor size, who had higher T or M stages, and who had a higher Furhman nuclear grade. The expression of claudin-1 was associated with higher risk of postoperative distant metastasis.