

# 2<sup>nd</sup> International Conference on Health Informatics and Technology

July 27-29, 2015 Valencia, Spain

## Texture analysis of clear cell renal cell carcinoma

**D De Falco Alfano D, R N Abousiam, G Valpiani, A Florio, R Duati, M Totaro and M Giganti**  
University of Ferrara, Italy

**Purpose:** The main goal of this retrospective study in blind, was to evaluate the accuracy of Mean value of Positive Pixels (MPP) texture parameter in tomodesitometric evaluation of renal cell carcinoma.

**Materials & Methods:** IRB approval was obtained for the study. All patients who underwent a surgical nephrectomy (radical or partial) between January and December of 2013 has been identified. The study sample consisted of 33 men and 16 women between the age of 37 and 91 years. The TCTA study was conducted using the commercial software ImageJ, National Institutes of Health, USA.

**Result:** A statistically significant correlation between MPP values ( $r_s=0.66$ ;  $p<0.001$ ) with Histologic Grading (Gold Standard) was documented. The average values of MPP were significantly lower in the non-tumor lesions (MPP  $92.63\pm 3.81$ ) compared to well-differentiated lesions G1 (MPP= $112.35\pm 4.03$ ), moderately differentiated lesions G2 (MPP =  $142.41\pm 13.83$ ; ) and G3 (PP =  $147.21\pm 10.74$ ) and to poorly differentiated lesions G4 (MPP = $177.89\pm 6.57$ ). The intra-observer and interobserver accordande was excellent (respectively  $a=0.94$  and  $0.96$ ).

**Conclusion:** The CT Texture Analysis is a valid aid for the characterization of tumor lesions allowing a clear distinction of well differentiated carcinomas (G1), moderately differentiated (G2 and G3) and poorly differentiated (G4). The evaluation of MPP texture parameter represent an accurate and reproducible approach for tomodesitometric characterization of renal cell carcinomas.t

## Biography

Daniele De Falco Alfano began his experience in experimental radiology with the medical degree received in October 2009 at the University of Ferrara (Italy). In June 2011, he started the residency in radiology at the same University and over the last 3 years he has focused his scientific interests in Cancer Imaging and Texture Analysis. He has published more than 12 papers in reputed journals and has been serving as an Reviewer for *European Radiology*, *La Radiologia Medica Journal*, *Tumori Journal* and *Journal of Radiology Case Report*. He is the Member of: European Congress of Radiology (ECR), Radiological Society of North (RSNA), Italian Society of Radiology (SIRM).

[defalco.md@gmail.com](mailto:defalco.md@gmail.com)

## Notes: