



The co-relation between gastrointestinal stromal tumors and renal cell carcinoma: is the largest retrospective analysis ever performed enough evidence?

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The subject of gastrointestinal stromal tumors (GIST) has been widely researched over the past few decades since its discovery in 1983 (1-3), due to the fact that they stand for the most common sarcoma-type tumor in the gastrointestinal tract. Lately, however, it has been noticed that some smaller studies, or case reports, with approximately 1–3 patients, have been taking the first steps towards the understanding of the relationship between the GIST and the renal cells carcinoma (RCC) (4-8).

The GISTs have a prevalence of 1–2/100,000 in the world and, as all sarcomas, it originates in mesenchymal tissue. They can be found throughout the digestive tract, having the stomach as the main target, counting up to 60% of all GISTs. They are more common in individuals who are over 65 years old (9). The symptoms may include abdominal distension and pain, nausea, weight loss, dysphagia, amongst others. The RCC, on the other hand, stands for the most common malignant tumor in the kidney and for the most lethal genitourinary cancer (10). It usually presents itself as an asymptomatic abdominal mass, which explains why it is usually late presented to health professionals and a poor survival prognosis (11). The relationship that both conditions may possess has been a rising concern due to the fact that both tumors come from the same pathological pathway: the genetic mutations in the tyrosine kinase pathway.

It is in this context that the article in question, “The association of renal cell carcinoma with gastrointestinal stromal tumors”, published in March of 2018 in the *Wiley*

Journal of Surgical Oncology (12), stands. It suggests a possible relationship between GIST and RCC by retrospectively analyzing two prospectively maintained databases within the Department of Surgery at Memorial Sloan Kettering Cancer Center. The two databases included a number of 405 patients treated for GISTs, in which 9, or 2.2%, were also treated for RCC.

The article shows a series of results in order to prove the co-relation of the two different tumors, such as the higher occurrence of papillary RCC than in the average population (44% and 12–14%, respectively), or the higher frequency of GIST originating in the small bowel than in the average population as well (44% and 31.8%, respectively). The authors suggest that those facts might be due to a possible genetic syndrome, but it also states that the study itself does not provide enough support for that idea.

Interestingly enough, the article also admits its flaws. For instance, as most RCCs are usually late diagnosed, there is a bias of over-diagnosing the condition because, in order to stage the primary GIST, 88.9% were discovered through image scans while they were, according to the pathological analysis later on, staged as pT1.

When analyzing the whole amount of information given, that might be perhaps the sole problem with the article. It is, as it says so in the text, the largest study investigating the concomitant occurrence of GIST and RCC, and it definitely serves its purpose. However, given the fact that it involves a retrospective take, it cannot provide enough specific information to determine whether those histological

co-relations found are in fact due to a specific genetic mutation or syndrome or not.

However, it is important to recognize its importance in the pathway for identifying those possibilities. It is known that GIST is a very severe condition, and its co-relation with RCC might be useful, in the future, for assessing multiple-organ tumors and genetic counseling. There might even be room for cancer prevention procedures based on co-relations such as this one. This study, even though it doesn't state the relationship as undeniable and doesn't effectively prove how they could be genetically tied, works as an important step towards that goal. Of course, there is a chance that the co-relation we look for here is absolutely non-existent, but the only way we will be certain of it is by performing analyses such as the one we review in this text.

In this way, when we look towards a future where tumor prevalence might be diminished due to genetic paneling and genetic-based clinical and surgical prevention techniques, the co-relation between GISTs and RCCs might have room to grow. However, in order to achieve the level of certainty required for stating it as a fact and thus looking for strategies that target its prevention—in order to improve life-expectancy in asymptomatic individuals that might be the carrier of an elevated risk for developing both conditions—it is necessary to design larger studies, in a prospective analysis, that can provide not only histological, but genetic samples, which may allow a deeper search and, as much as possible, deeper conclusions.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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