Background: Genomic alterations guided treatment are increasingly common in urothelial carcinoma (UC), but patients for whom tumor tissue is not available or not benefited from that. Molecular testing of circulating tumor DNA (ctDNA) in plasma enables the detection of mutations for patients with unavailable tumor specimens. In this study, the aim of this study was to assess whether the genomic alterations of UC detected via ctDNA is similar to tumor tissue DNA.

Methods: Patients diagnosed with UC were enrolled in the study. 49 serial plasma and matched tissue from participants were deeply sequenced via next-generation sequencing (NGS) techniques with Acommed panel (2.0 Mbp) containing 808 cancer-related genes.

Results: A total of 49 patients were enrolled. Overall, 93.9% (46/49) patients had genomic alterations in both ctDNA and tissue DNA. For 91.3% (43/49) patients, at least one discordant mutation was detected in both ctDNA and tissue DNA. Combined ctDNA and tissue analysis identified clinical actionable, 61.2% of UC patients harbored at least one actionable alteration according to the OncoKB database via ctDNA, whereas tissue DNA was 83.7%. The concordance for the detection of clinical actionable in ctDNA and tissue DNA was 73.2%. The most common genes altered in ctDNA were TP53 (39%) and KMT5A (33%), whereas tissue DNA were TP53 (54%) and KMT2D (46%). The concordance rate between ctDNA and tissue DNA alterations was 72.2% for TP53, 66.7% for KMT5A, and 60.9% for KMT2D, respectively. There was no statistically significant difference for gene between ctDNA and tissue DNA.

Conclusions: NGS for ctDNA and tissue revealed genomic alterations in most patients. The genomic results of ctDNA and tissue overlap suggests that among patients with UC for whom no tumor tissue was available, ctDNA was able to identify a similar profile of genomic alterations compared with tumor tissue.

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210P Prognostic value of sarcopenia in metastatic renal cell carcinoma patients: A systematic review

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Background: Sarcopenia is a degenerative loss of skeletal muscle mass that can be found in the development of cancer cachexia. Based on recent studies, the prevalence of sarcopenia is relatively high in mRCC (metastatic renal cell carcinoma) patients, with the rate of 29-68%. Sarcopenia has been associated with increased adverse outcomes and could be an important predictor of outcomes in some types of cancer. However, the prognostic value of sarcopenia in renal cancer patients is still unclear. Thus, in this systematic review, we aim to evaluate the prognostic value of sarcopenia in mRCC patients.

Methods: Data is collected from PMC, PubMed, Scopus, and Science Direct, using combinations of keywords related to Sarcopenia and mRCC. We included studies that investigate sarcopenia in relation to survival and primary chemotoxicity in mRCC patients. Quality of each included study is assessed using the Newcastle-Ottawa Scale (NOS).

Results: A total of 10 studies consisting of 849 mRCC patients were included. According to the NOS, there were 5 studies with good quality, 4 studies with moderate quality, and 1 study with poor quality. The association of sarcopenia and OS (Overall Survival) was found in 4 studies. However, other 5 studies showed that sarcopenia was not associated with OS. Similar results for PFS (Progression Free Survival) were found. Two studies found that sarcopenia was associated with PFS, while other 2 studies found that there was no association between sarcopenia and PFS. There were 3 studies that found a higher DLT (Dose-Limiting Toxicity) rate in sarcomen patients vs. non sarcopenic patients treated with sunitinib and sorafenib. However, other 2 studies found that there were no significant differences in chemotherpay toxicity between sarcopenic and non-sarcopenic patients treated with tyrosine kinase inhibitor and everolimus.

Conclusions: In this systematic review, we observed that sarcopenia was associated with increased DLT and poor survival in some studies, but the results were inconsistent and conflicting. There were 5 studies with good quality, 4 studies with moderate quality, and 1 study with poor quality. Further investigation is needed with better methods and outcome that focuses on chemotherpay toxicity and quality of life.

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211P The impact of low muscle mass to overall survival in bladder cancer patients undergoing chemotherapy: A systematic review and meta-analysis

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Background: Bladder cancer belongs to one of the top ten most common cancers in the world with approximately 550,000 cases annually. The general 5-year survival rate for people with bladder cancer is 77%. The overall 10-year survival rate is 70% and the overall 15-year survival rate is 65%. Low muscle mass is prevalent in these patients receiving chemotherapy. In this meta-analysis, we aim to assess the impact of low muscle mass on overall survival in bladder cancer patients undergoing chemotherapy.

Methods: A systematic review was performed according to PRISMA guidelines. A literature search using confidence method, was conducted by two independent reviewers on all of the studies that include low muscle mass in bladder cancer patients undergoing chemotherapy using Google Scholar, PubMed, and PubMed central databases. Outcome of interest in this study is the overall survival. Data synthesis and statistical analysis were carried out using Review Manager Software.

Results: A total of 4 studies were eligible for meta-analysis including a total of 370 bladder cancer patients undergoing chemotherapy. All of the studies were observational studies. Meta-analysis revealed that there are no association between low muscle mass and overall survival (HR 1.24; 95% CI 0.71-2.19; P<.0.45). The quality of this study was assessed with Newcastle Ottawa Scale (NOS) shows “good” quality in all included studies.

Conclusions: Our meta-analysis shows that low muscle mass is not associated with the overall survival of bladder cancer patients undergoing chemotherapy. Further study need evaluate in better patient selection and adjusting the confounder.

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