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Getting the basics right: Renal function assessment for platinum chemotherapy

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Introduction: Renal function assessment is fundamental in preventing platinum nephrotoxicity. British Oncology Pharmacy Association advocates glomerular function rate (GFR) measurement using 51-Cr EDTA. However, this method is laborious, costly and inconvenient. An alternative is GFR estimation (eGFR) using Cockcroft and Gault (C&G) formula. A survey and evaluation of practice revealed lack of standardized care.

Objectives: The primary objective of this clinical audit was for standardized use of EDTA test in assessing renal function. We aimed for 100% of patients who had renal function assessed by EDTA within set criteria, devised by London Cancer Alliance guideline.

Methods: Dataset of EDTA measurements done within one year (2014-2015) in oncology department were reviewed. Comparison between eGFR (C&G) and EDTA was done. London Cancer Alliance guideline was used due to lack of national guideline. 51-Cr EDTA was only done if eGFR <60ml/min or >120ml/min, or in patients with extreme BMI (<18.5kg/m² or >30kg/m²).

Results: EDTA tests carried out in 30% (20/68) of patients were outside set criteria and could be safely avoided. 70% (48/68) patients had renal function assessed by EDTA within set parameters; low eGFR (<60ml/min) in 41 patients and extreme BMI in 7 patients. EDTA measurement, within set limits, has caused practice change with reduction in dose (20%) and change of drug (5%). Correlation exists between estimated GFR using C&G and measured GFR with EDTA. However, the discrepancy of estimated and measured GFR persists and cannot be reliably explained by extremes of BMI or weight.

Conclusion: Presentation of audit highlighted importance of streamlining renal function assessment to optimize cost and service efficiency. Completing audit loop, inclusive of all patients receiving cisplatin chemotherapy, need to be carried out in the future.

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