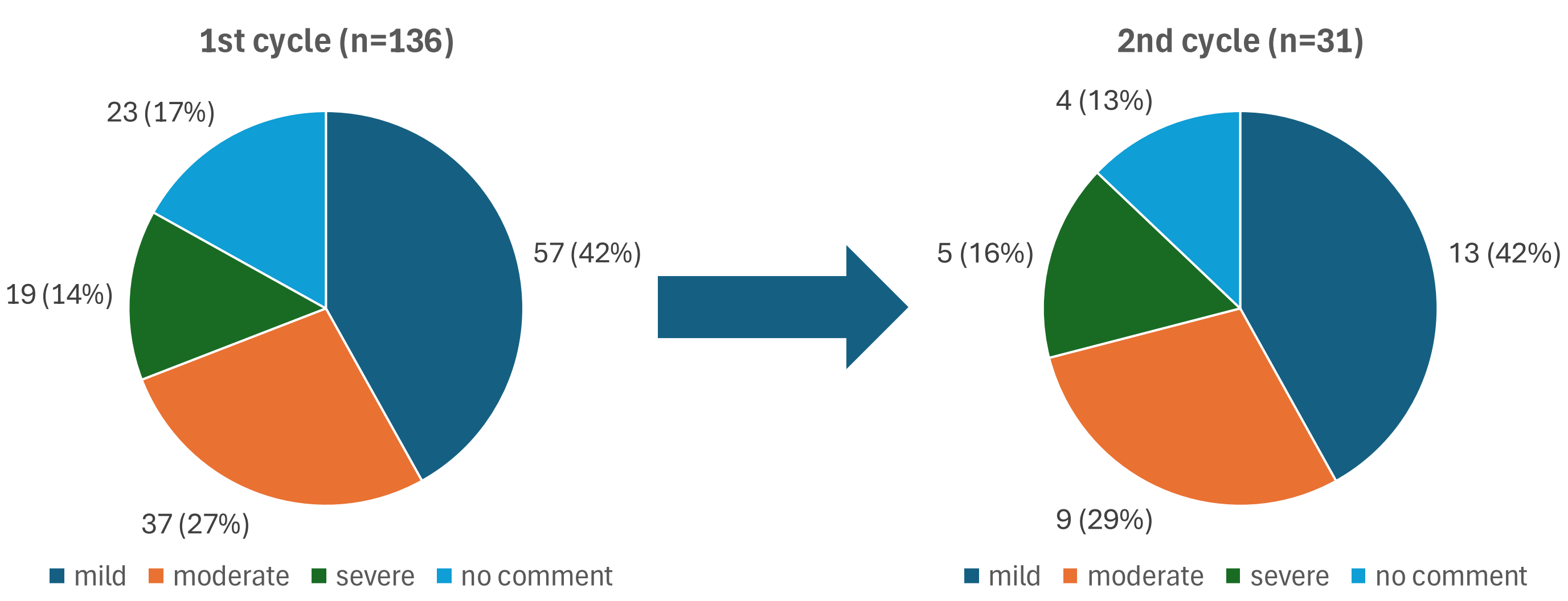
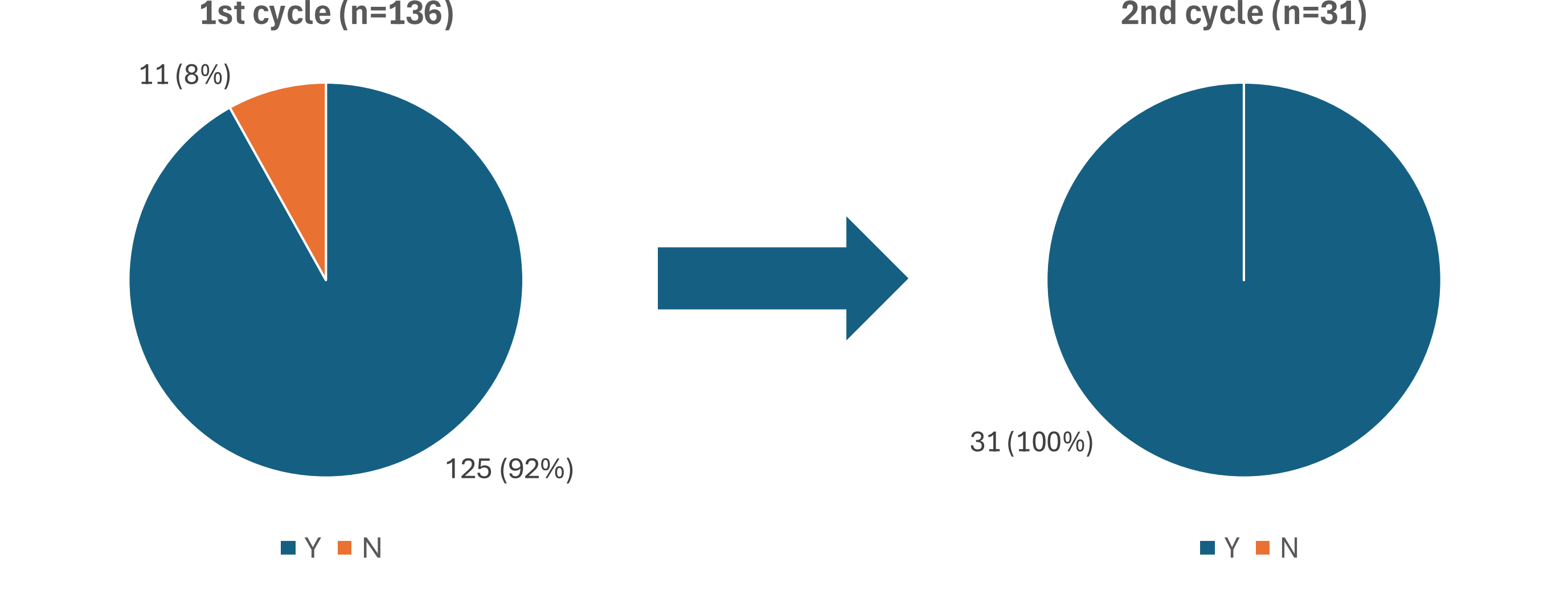
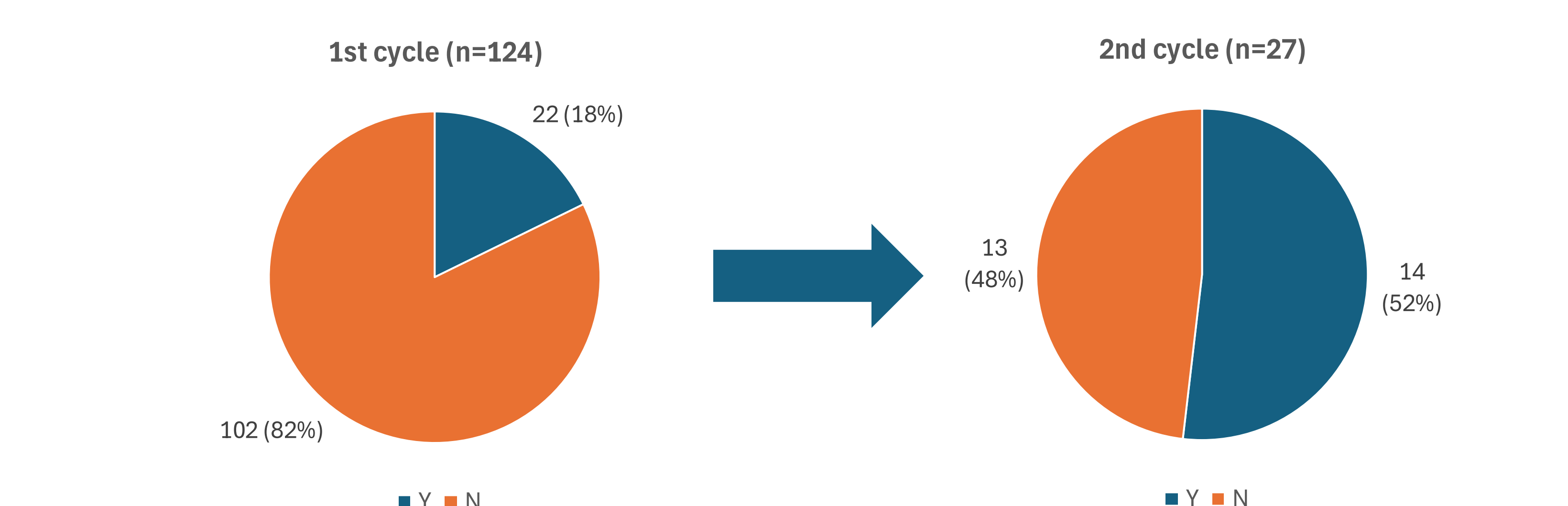
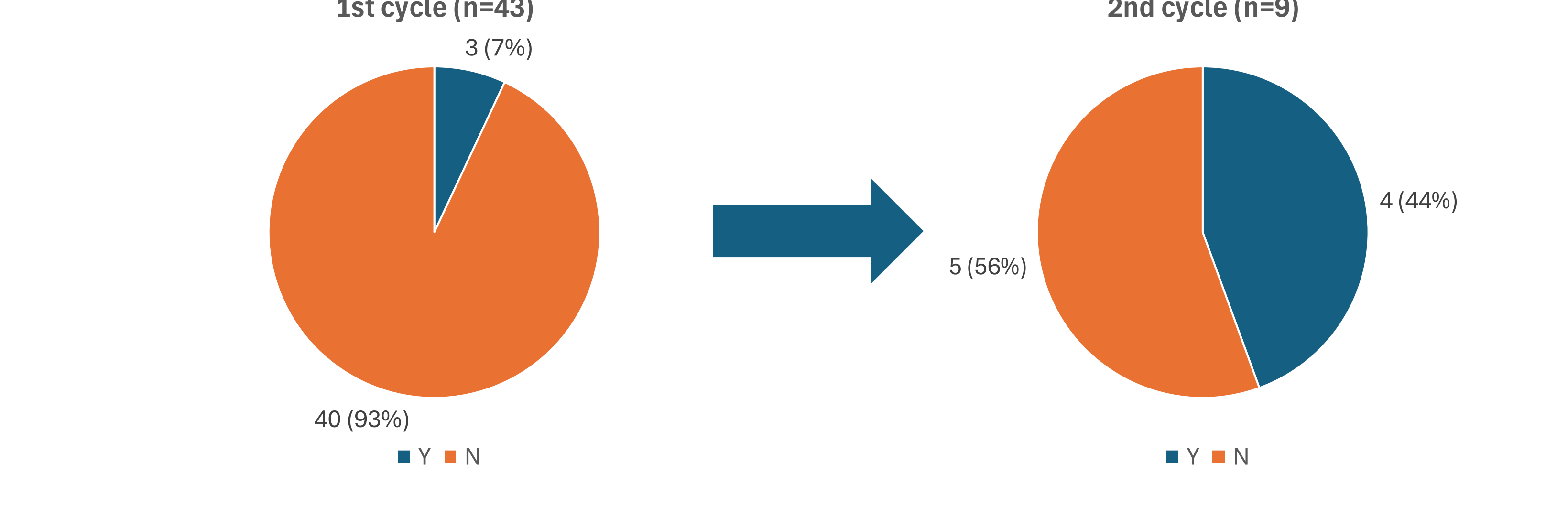


Radiological Reporting and Subsequent Clinical Management of Incidental Coronary Artery Calcification in CT Skeletal Surveys for Patients with Suspected or Confirmed Myeloma in a Large Teaching Hospital

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BACKGROUND & OBJECTIVES			INTERVENTIONS		
- Coronary artery calcification (CAC) is an established imaging marker of coronary artery disease^[1], but incidental detection on non-cardiac CT is frequently under-recognised, under-reported, and under-managed. - Patients with myeloma face a greater overall cardiovascular risk due to both disease-related (e.g. inflammation, paraproteinaemia) and treatment-related (e.g. corticosteroids, chemotherapy) factors.^[2] - CT skeletal surveys (CTSS), routinely used for bone evaluation in suspected myeloma, offer a valuable opportunity for early identification of CAC and initiation of preventative interventions in this high cardiovascular risk population. - We conducted two audits in parallel to evaluate standards of (1) reporting and (2) subsequent clinical management of incidental CAC on CTSS, followed by a repeat cycle for each audit to assess improvement post-intervention.			INTERVENTIONS TO IMPROVE REPORTING: educational presentation of findings: to specialty leads for oncological imaging to reinforce value of looking at coronary arteries on all CTSS guidance to radiologists: if a grade cannot be given where calcification is present, include an explicit reason in the report for why not (e.g. previous CABG, stent in situ) INTERVENTIONS TO IMPROVE MANAGEMENT: educational presentation of findings: to both specialty leads for oncological imaging and haematology consultants specialising in myeloma to raise awareness guidance to radiologists: introduction of a standardised reporting template for CAC, which automatically includes simple recommendations for further management in the report text if CAC is explicitly identified guidance to clinicians: clinicians receiving a report definitively identifying CAC advised to... - suggest lifestyle changes to minimise overall cardiovascular risk - initiate/optimize statin therapy for primary prevention - encourage patient to discuss long-term cardiovascular risk reduction with GP patient information sheet: co-developed with haematology consultants specialising in myeloma to empower patients with information needed to discuss strategies for cardiovascular risk reduction in primary care		
STANDARDS & TARGETS			RESULTS		
While there are no CTSS-specific national guidelines, recommendations from the British Societies of Cardiovascular Imaging (BSCI), Cardiac CT (BSCCT), and Thoracic Imaging (BSTI) offer advice on reporting/management of incidental CAC on non-gated thoracic CT. ^[3] Our audits used the following standards derived from their consensus:			1. In reports in which the coronary arteries were/CAC was explicitly commented on, what degree of calcification was noted?		
1 Reporting & Grading <i>If CAC is explicitly identified, it should be quantified using a simple visual scale (none, mild, moderate, severe) unless there is a valid reason making this difficult or inappropriate (e.g. previous CABG, stent in situ).</i> → target: 100%					
2 Suggesting Recommendations in Report <i>If CAC is explicitly identified, simple recommendations for further assessment or management should be provided in the report text itself.</i> → target: 100%			2. What percentage of reports in which the coronary arteries were/CAC was explicitly commented on visually-qualified the severity of calcification OR had an appropriate reason not to comment?		
3 Enacting Subsequent Clinical Management <i>If CAC is explicitly identified, some form of appropriate clinical management (e.g. patient discussion, lifestyle modification, statin initiation, GP referral, etc.) should be enacted by the primary medical team responsible for the patient's care.</i> → target: 100%					
METHODOLOGY			DISCUSSION & CONCLUSION		
AUDIT #1 ('reporting'-focused)		AUDIT #2 ('management'-focused)	3. In reports where CAC was definitively identified, was there any simple recommendation re. further assessment/management given in the report text?		
1st cycle All primary CTSS for patients with suspected myeloma at CUH from Jan 2022-Dec 2023 were reviewed to assess whether CAC was explicitly mentioned and visually-graded (if appropriate). [n=229; age=71.86±0.87 years; sex=60% male, 40% female]		1st cycle All primary CTSS for patients with suspected myeloma at CUH from Jan 2022-Dec 2023 were reviewed to assess whether the reports explicitly mentioning CAC provided any simple recommendations for further assessment/management in the report text. This was corroborated with electronic medical record (EMR) analysis to determine cardiovascular risk/disease status of each patient and ascertain whether appropriate clinical management was enacted. [n=229; age=71.86±0.87 years; sex=60% male, 40% female]			
implementation of interventions to improve reporting [in Apr 2025]		implementation of interventions to improve management [in Apr 2025]	4. In the most at-risk patients (i.e. those with risk factors for CVD) in whom CAC was definitively identified in the report and were not already on/on sub-optimal primary prevention, was any subsequent clinical management enacted?		
2nd cycle All CTSS for patients with suspected or confirmed myeloma at CUH from May 2025-Aug 2025 were reviewed for the same criteria as above. [n=69; age=71.49±1.33 years; sex=64% male, 36% female]		2nd cycle All CTSS for patients with suspected or confirmed myeloma at CUH from May 2025-Aug 2025 were reviewed for the same criteria as above. [n=69; age=71.49±1.33 years; sex=64% male, 36% female]			
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			3 Williams, M. C., Abbas, A., Titr, E., Alam, S., Nicol, E., Shambrook, J., Schmitt, M., Hughes, G. M., Stirrup, J., Holloway, B., Gopalan, D., Deshpande, A., Weir-McCall, J., Agrawal, B., Rodrigues, J. C. L., Brady, A. J. B., Roditi, G., Robinson, G., & Bull, R. (2021). Reporting incidental coronary, aortic valve and cardiac calcification on non-gated thoracic computed tomography, a consensus statement from the BSCI/BSCCT and BSTI. <i>The British journal of radiology</i> , 94(1117), 20200894. https://doi.org/10.1259/bjlr.20200894		