

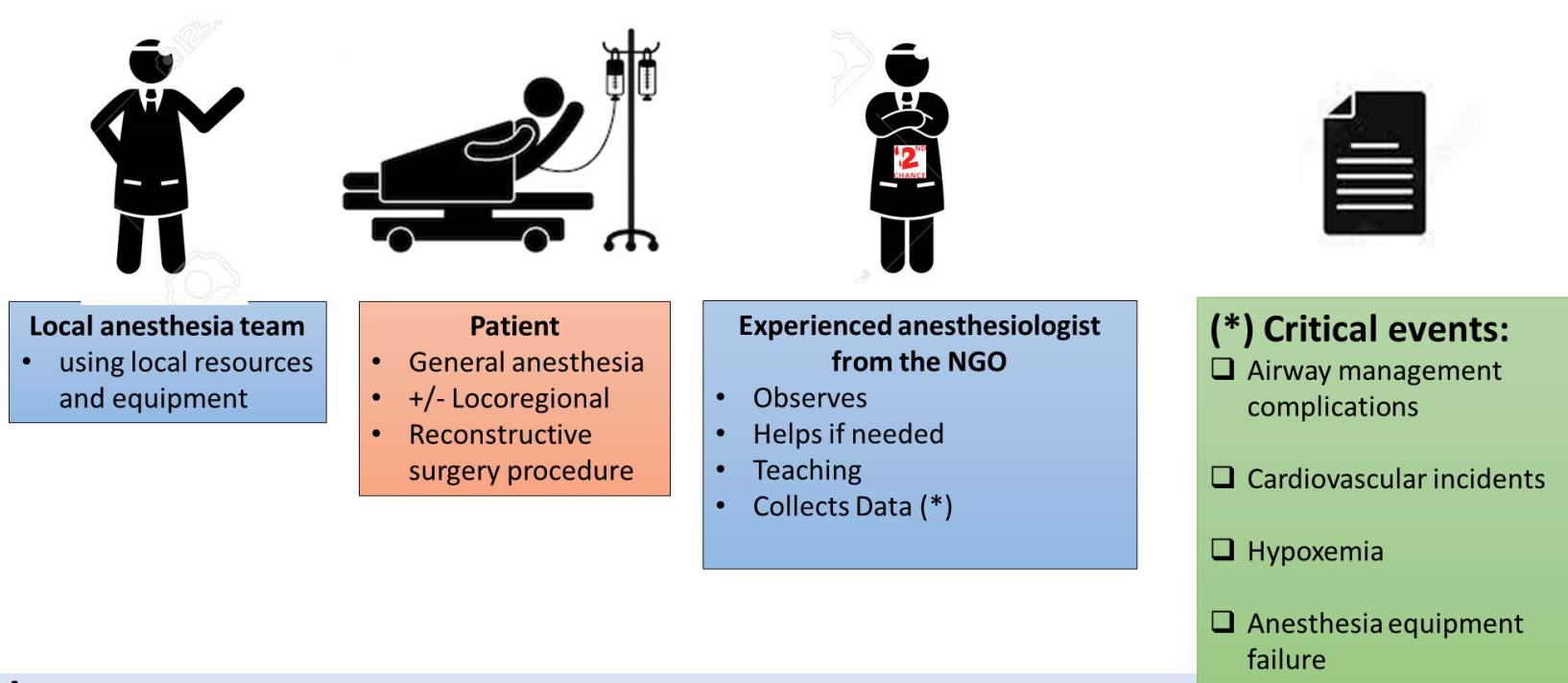
Intraoperative anesthesia-related critical events in low resources hospitals in Tanzania and Democratic Republic of the Congo, an observational study.

Simon Ponthus^{1,2}, Amina Omari³, Serelina Tesha³, Castram Mbuza⁴, Richard Yamuremye, Lionel Dumont^{1,2}

Background and objectives

Critical incidents and mortality related to anesthesia are more frequently observed in low- and middle-income countries in comparison to high-income countries. There is a scarcity of case-by-case field studies that have focused on this issue. The difficulties linked to anesthesia in rural areas of the Democratic Republic of the Congo (DRC) and Tanzania have limited documentation. The aim of this study is to comprehensively document all anesthesia-related critical events that occur during surgical training workshops organized by the non-governmental organization 2nd Chance (<https://2nd-chance.org/en/home/>) in resource-constrained hospitals.

Methods



Results

Subgroups by age and by country	0-1 year	2-5 years	6-21 years	>21 years	Tanzania	DRC	Total
n patients	17	82	30	63	143	49	192
Patient with at least one critical event, n(%)	8 (47%)	43 (52%)	18 (60%)	35 (56%)	73 (51%)	31 (63%)	104 (54%)
Number of critical events (total), n	15	94	27	66	142	60	202
Cardiovascular (at least one)							
Bradycardia, n(%)	2 (12%)	6 (7%)	2 (7%)	2 (3%)	11 (8%)	1 (2%)	12(6%)
Tachycardia	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hypotension	n/a	n/a	n/a	n/a	n/a	n/a	n/a
hypertension	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Airway management problem (at least one), n(%)	3 (18%)	20 (24%)	7 (23%)	14 (22%)	31 (22%)	13 (27%)	44 (23%)
Hypoxemia (at least one), n(%)	4 (24%)	28 (34%)	12 (40%)	11 (17%)	47 (33%)	8 (16%)	55 (29%)
Material incident during anesthesia (at least one), n(%)	5 (29%)	15 (18%)	4 (13%)	22 (35%)	25 (18%)	21 (43%)	46 (24%)

Discussion and conclusion

This study underscores the elevated occurrence of critical anesthesia-related events in resource-limited, rural settings in DRC and Tanzania. The multifaceted origins of these incidents underscore the challenges faced by anesthesia teams, encompassing inadequate resources, equipment deficiencies, and varying levels of expertise among anesthesia personnel. The research further stresses the significance of addressing these challenges to enhance patient safety.