



The role of G8 screening tool in elderly population undergoing radical cystectomy: preliminary evaluation

Riccardo Boschian*, Nicola Pavan*, Enrica Verzotti*, Fabio Traurnero*, Tommaso Silvestri*, Giovanni Liguori*, Carlo Trombetta*.

***University of Trieste, Urologic Clinic, Department of Medical Surgical and Health Sciences, Trieste, Italy**

Objectives

In geriatric practice, the G8 screening tool represents a valid instrument for the identification of functional decline in oncological elderly patients (pts).

Recently it has demonstrated good predictive value in surgery to identify fragile pts candidates for oncological abdominal surgery.

Our study has the objective to define if G8 score is a good tool to identify the risk of post operative complications in elderly pts (\geq 70 years) undergoing radical cystectomy (RC).

Materials and Methods

From January 2012 to August 2017 we recruited 56 pts 70 years or older at the surgical time, undergone RC.

Median age was 76 years (SD 4,37), 41 pts were male (73,2%) and 15 pts female (26,8%). Median BMI was 25,73 (SD 4,03). 8 pts (14,3%) were affected by type 2 diabetes mellitus, 32 (57,1%) suffered hypertension and 18 (32,1 %) had stage III or higher chronic kidney disease.

The G8 screening questionnaire was performed to all patients preoperatively, and fragile pts were identified with a score \leq 14. We registered intra operative complications, post operative complications and their gravity using Clavien-Dindo scale, estimated glomerular filtration rate (eGFR) and its variation postoperatively, length of hospital stay after surgery and readmission rate within 30 days.

We compared the clinical-pathological data between the frail (G8 score \leq 14) and not frail (G8 score $>$ 14) group. Statistical analysis was made by computing software SPSS.

Item	Score
1. Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing, or swallowing difficulties?	0 = severe reduction in food intake 1 = moderate reduction in food intake 2 = normal food intake
2. Weight loss during the last 3 months	0 = weight loss $>$ 3 kg 1 = does not know 2 = weight loss between 1 and 3 kg 3 = no weight loss
3. Mobility	0 = bed or chair bound 1 = able to get out of bed/chair but does not go out 2 = goes out
4. Neuropsychological problems	0 = severe dementia or depression 1 = mild dementia or depression 2 = no psychological problems
5. BMI (weight in kg/height in m ²)	0 = BMI $<$ 19 1 = 19 \leq BMI $<$ 21 2 = 21 \leq BMI $<$ 23 3 = BMI \geq 23
6. Takes more than 3 medications per day	0 = yes 1 = no
7. In comparison with other people of the same age, how does the patient consider his/her health status?	0.0 = not as good 0.5 = does not know 1.0 = as good 2.0 = better
8. Age	0 = $>$ 85 years 1 = 80-85 years 2 = $<$ 80 years
Abbreviation: BMI, body mass index.	

Results

Median preoperative G8 score was 13,65 (SD 2,3). Pts were divided in fragile (N=35, 62,5%) and not fragile (N=21, 37,5%).

Intra operative complications were registered in 1 pts (2,8 %) with G8 score \leq 14 and 0 pts (0%) with G8 $>$ 14 (p= 0,625).

Post operative complications occurred in 24 pts (68,5 %) with G8 score \leq 14 and 8 pts (38,09 %) with G8 $>$ 14 (p=**0,025**), 12 and none of them had a Clavien-Dindo Score \geq 3 respectively (p= **0,015**).

Postoperative eGFR was 61,45 (SD 29,2) in G8 \leq 14 group and 57,66 (SD 25,84) in G8 $>$ 14 group (p=0,62) and median variation between pre and postoperative eGFR was 7,8 (SD 27,43) and 8,0 (SD 26,01) for each group (p= 0,97).

Median hospital stay was 25,45 days (SD 11,01) for fragile pts and 24,23 days (SD 11,32) for pts not fragile (p=0,69). 5 pts (14,28 %) with G8score \leq 14 were readmitted within 30 days of discharge, and for 6 pts (28,57 %) with G8score $>$ 14 was necessary a new hospitalization (p= 0,298).

No significant difference was registered for overall mortality (p= 0,23) and cancer related mortality (p= 0,53) between the two groups.

Table 1. Gender, age and comorbidity of population	
Characteristics	N.
<i>N. of Patients</i>	
Male (%)	41 (73,21%)
Female (%)	15 (26,79%)
<i>Age (years)</i>	
Median (range)	76,98 (70 - 87)
<i>Follow up (Months)</i>	
Median (range)	16,92 (0 - 57)
<i>Type of surgery</i>	
RC+ Bricker ileal conduit (%)	43 (76,8%)
RC+ ureterocutaneostomy (%)	10 (17,9%)
RC+ orthotopic ileal bladder (%)	3 (5,4%)
<i>BMI</i>	
Median (range)	25,73 (17,3-37,4)
<i>ECOG (%)</i>	
0	23 (41,1%)
1	33 (58,9%)
2	0
\geq 3	0
<i>Charlson Comorbidity Index (%)</i>	
$<$ 5	56 (100%)
$>$ 5	0
<i>DM (%)</i>	
Yes	8 (14,3%)
<i>HTN (%)</i>	
Yes	32 (57,1%)
<i>Pre-operative CKD III (%)</i>	
Yes	18 (32,1%)
<i>ASA Score (%)</i>	
1-2	31 (55,4%)
3	25 (44,6%)
4	0
<i>G8 Screening Tool(%)</i>	
$<$ 14	35 (62,5%)
$>$ 14	21 (37,5%)

Table 2. Clinical and pathological characteristics of population	
Characteristics	N.
<i>Clinical Size of Tumor</i>	
0-10 mm (%)	3 (5,4%)
11-20 mm (%)	8 (14,3%)
21-30 mm (%)	19 (33,9%)
$>$ 30 mm (%)	26 (46,4%)
<i>Multifocal Tumor (%)</i>	
Yes	16 (28,6%)
<i>Hystotype malignant (%)</i>	
Malignant	47 (83,9%)
<i>pTNM (%)</i>	
pT0 (%)	6 (%)
pT1 (%)	5 (8,9%)
pT2a (%)	7 (12,5%)
pT2b (%)	4 (7,1%)
pT3a (%)	10 (17,9%)
pT3b (%)	10 (17,9%)
pT4a (%)	10 (17,9%)
pT4b (%)	1 (1,8%)
pTis (%)	2 (3,6%)
pTa (%)	1 (1,8%)
<i>Grading (%)</i>	
G1(%)	1 (1,8%)
G2(%)	34 (60,7%)
G3(%)	15 (26,8%)

Table 3. Intra and post-operative surgical characteristics of population	
Characteristics	N.
<i>Type of surgery</i>	
RC+ Bricker ileal conduit (%)	43 (76,8%)
RC+ ureterocutaneostomy (%)	10 (17,8%)
RC+ orthotopic ileal bladder (%)	3 (5,4%)
Lymphadenectomy (%)	
Extended (%)	39 (69,6%)
Super extended (%)	7 (12,5%)
<i>Operative Time</i>	
Median min (range)	302 (210-395)
<i>Blood Loss</i>	
Median ml (range)	860 (350-2000)
<i>Intraoperative Transfusion (%)</i>	
Yes	5 (8,9%)
<i>Postoperative Transfusion (%)</i>	
Yes	7 (12,5%)
<i>Clavien Dindo grade (%)</i>	
I	6 (10,7 %)
II	17 (30,4%)
\geq III	12 (21,5%)
<i>Readmission within 30 days (%)</i>	
Yes	11 (19,6%)
<i>Lenght of stay</i>	
Median (range)	21,57 (5-61)
<i>Post-GFR at 4 months (MDRD)</i>	
Median (range)	60,03 (16-137)

Table 4. G8 Screening Tool comparing to Complications and Δ GFR of population			
Characteristics	G8≤14 n = 35	G8>14 N = 21	p-value
Intraoperative complications	1	0	0,625
Postoperative complications	24	8	0,025
Clavien-Dindo grade			
< 3	12	8	0,015
≥ 3	12	0	
Length of stay	25,45	24,23	0,69
Readmission within 30 days	5	6	0,298
Postoperative eGFR	61,45	57,66	0,62
Δ eGFR	7,8	8	0,97
Overall survival			
Alive	22	17	0,23
Dead	13	4	
Cancer related death			
No	25	17	0,53
Yes	10	4	

Conclusions

The G8 screening tool represents a good predictive instrument for RC morbidity, identifying fragile pts at risk of post operative complications and their severity. However, it doesn't demonstrate good affability in identification of pts at risk of intraoperative complications and within 30 days of operation with necessity of hospital readmission. Further analyses are necessary to confirm the data obtained from this preliminary study.

References

-C. Kenis, L. Decoster, K.Van Puyvelde, et al.: Performance of Two Geriatric Screening Tools in Older Patients with Cancer. *J Clin Oncol* 32: 19-27, 2014
-Bellera CA, Rainfray M, Mathoulin-Pélissier S, et al.: Screening older cancer patients: First evaluation of G8 Geriatric Screening Tool. *Ann Oncol* 23: 2166-2172, 2012
-Soubeyran P, Bellera CA, Gregoire F, et al.: Validation of a screening tests for elderly patients in oncology. *J Clin Oncol* 26, 2008 (suppl 15S)
-C Martinez-Tapia, F Canoui-Poitrine, P Soubeyran, et al.: Optimizing the G8 Screening Tool for Older Patients with Cancer: Diagnostic Performance and Validation of a Six-Item Version. *The Oncologist* 2016;21: 188-195.
-M. Kaibori, M Ishizaki , K. Matsui et al.: Geriatric assessment as a predictor of postoperative complications in elderly patients with hepatocellular carcinoma. *Langenbecks Arch Surg* (2016) 401:205-214