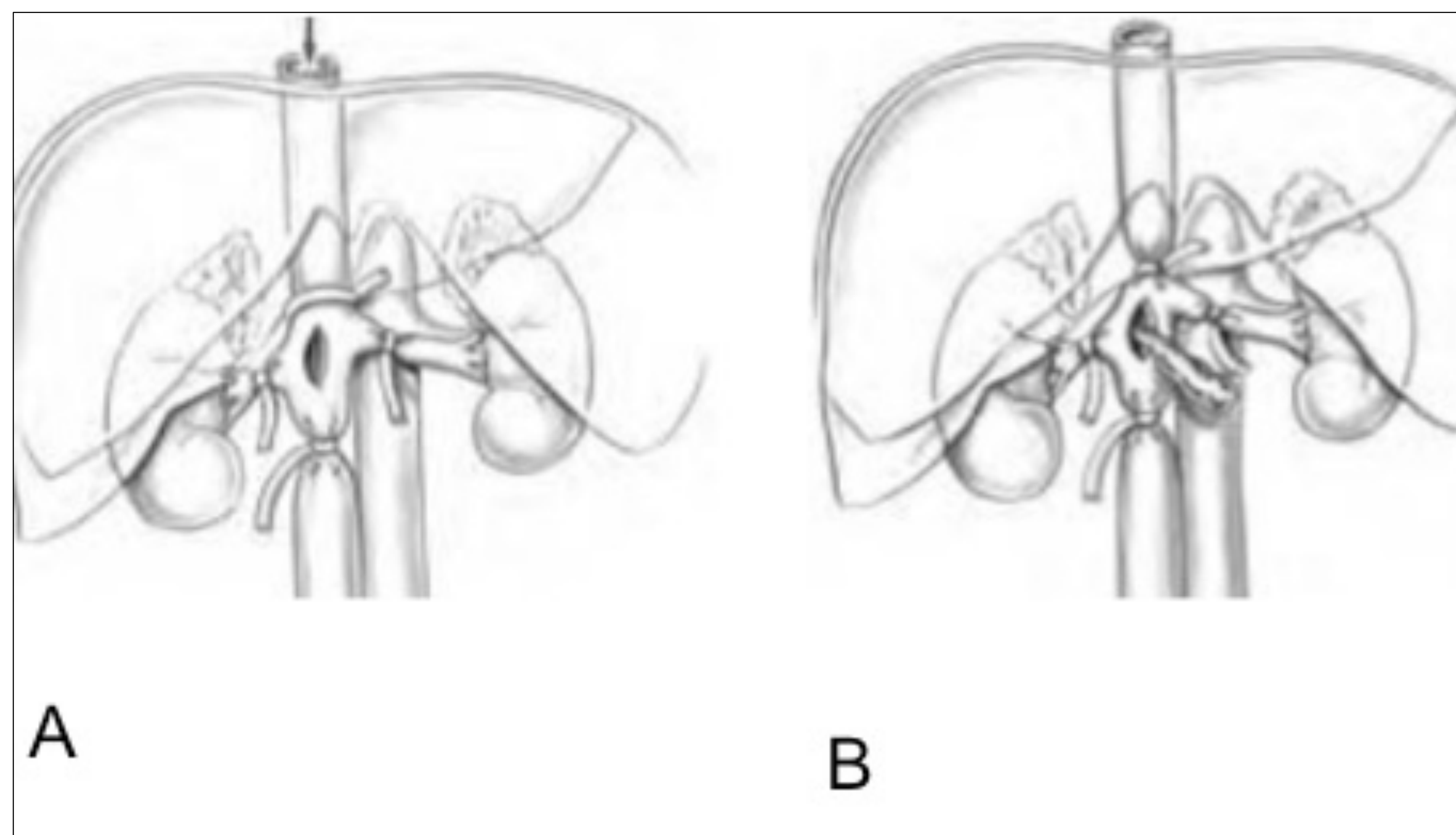


MP 42-01: Surgical management of renal cell carcinoma with levels III and IV tumor thrombus using the « flush » technique

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Objective: To determinate feasibility and results of the flush technique* for the surgical management of renal cell carcinoma (RCC) with levels III and IV inferior vena cava thrombus (VCT).

Materials and methods: We conducted a retrospective study for all patients who underwent a surgical treatment for RCC with levels III and IV VCT in our department between June 2010 and July 2017. Sixteen patients were identified.



Variables	Value
Number of patients	16
Mean (median; SD) age, years	66 (67;10.85)
Sex M/F, n(%)	11 (69%) / 5 (31%)
ECOG PS, n(%)	
0	10 (63%)
1	5 (31%)
>1	1 (6%)
Mean (median; SD) body mass index, kg/m2	27.87 (28.5;4.89)
Level of the thrombus, n (%)	
Level III	12 (75%)
Level IV	4 (25%)
Mean (median; SD) operative time, min	201 (194;39)
Mean (median; SD) estimated blood loss, ml	2040 (1575;1560)
Mean (median; SD) transfusions, n	4.9 (5;3.8)
Mean (median; SD) hospital stay, days	16.6 (16;6.75)

Variables	Value
Side of the tumor, R/L, n (%)	11 (69%) / 5 (31%)
Mean (median;SD) tumor size, cm	10.1 (9.75;2.8)
Histology, n(%)	
Clear cell tumors	11 (69%)
Chromophob tumors	2 (12,5%)
Sarcomatoid carcinoma	2 (12,5%)
Other	1 (6%)
Nuclear grading, n(%)	
Grade 1	1 (6%)
Grade 2	3 (19%)
Grade 3	6 (37.5%)
Grade 4	6 (37.5%)
Pathological stage pT, n(%)	
pT3b	5 (31%)
pT3c	7 (44%)
pT4	4 (25%)
Pathological stage pN, n(%)	
pN0	3 (19%)
pN1	9 (56%)
pN2	4 (25%)
Clinical stage M, n(%)	
M0	11 (69%)
M1	5 (31%)

Results: Vena cava control was performed only on its subhepatic portion (Fig1, A). After renal artery ligation, anesthesiologists were asked to generate a positive pressure in the small circulation. Subsequently, the vena cava was incised longitudinally to the orifice of the renal vein and the thrombus dissected and extracted of the upper part of the vena cava. Only once the supra-renal part of the vena cava was free of thrombus, the supra-renal portion of the vena cava could be clamped (Fig 1, B). We never had to perform neither thoracotomy nor hepatic mobilization. Therefore, support of a hepatic, vascular or cardiac surgeon was not necessary.

Conclusion The flush technique allows a limitation of the dissection extent. It requests neither hepatic mobilization nor thoracotomy. This results in a decrease in the operative time and blood loss.

*Lang H, Jacqmin D (1997). Envahissement cave au cours des cancers du rein: technique et tactique chirurgicales. Encyclopedie Med Chir Elsevier Ed. Techniques chirurgicales.