# The CABEM Initiative: Saving Patients With Muscle-Invasive Bladder Cancer

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## Abstract

Muscle-invasive bladder cancer (MIBC) is an aggressive disease with a complex treatment. In Brazil, as in most developing countries, data are scarce, but mortality seems exceedingly high. We have created a centralized program involving a multidisciplinary clinic in a region comprising 7 municipalities. Helping patients with adequate performance status get the right treatment helped to reduce 90-day mortality after radical cystectomy from 37% to 1.9%.

In Brazil, as in many developing countries, taking care of oncologic patients is a considerable challenge. Among oncologic diseases, bladder cancer poses an even more significant challenge because of the complexity of the treatment and aggressiveness of the disease.

Access to health treatment is a right unambiguously outlined in the Brazilian Constitution. Aware that patients treated with radical cystectomy frequently died, we decided to conduct national studies to gather epidemiologic data[1] and study our region. We found an astonishing 90-day mortality rate of 37% after radical cystectomy in the public hospitals of our region[2].

In light of these unacceptable numbers, we started a program aimed at changing this terrible scenario. This was the so-called CABEM initiative. It was based on principles of centralization of treatment, multidisciplinary approach, and patient navigation to coordinate the treatment, and our primary goal was to reduce mortality for muscle-invasive bladder cancer (MIBC) patients.

Our project comprised 3 phases: gathering the data, designing the strategies, and acting to meet our objectives. We mapped 4 main reasons for the high mortality rate: (1) advanced stage of disease at diagnosis, (2) poor patient performance status, (3) lack of treatment protocols, (4) inadequate perioperative care.

The advanced stage of the disease at diagnosis results from the difficulties and long waiting times our patients face to see a specialist. Our patients have usually waited between 13 and 24 months to see a urologist, and almost half of the patients with bladder cancer are diagnosed with MIBC. Neoadjuvant chemotherapy (NAC) had not previously been offered was not performed, in part because bureaucratic challenges made it difficult to coordinate in our public setting. We implemented a program to allow NAC, which is currently administered in half of our MIBC patients. It enables the downstaging of many cases of advanced disease—half our MIBC patients have T3–T4 tumors—but also during this part of the treatment, we have found a fantastic opportunity to improve performance status. We were able to enhance nutritional therapy, support the cessation of tobacco consumption, give psychological support, reduce the risk of requiring transfusions in the future, and prepare the patient for the surgery.

## Key Words

Bladder cancer, coordination of care, regional medical programs, hospital mortality, patient navigation, patient care team

## Competing Interests

None declared.

## Article Information

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All patients seen at our centralized clinic were evaluated according to scores selected after mapping the main reasons for death and complications in a systematic review of the literature[3]. These patients were referred by other treating physicians, who were incentivized to send us their patients with our promise to coordinate their treatment. Our team helped the patients navigate our complex public health system, aiming to avoid delays. After studying the medical literature, we concluded that, worldwide, most patients with MIBC are not treated with radical cystectomy (RC), even though it is recommended in most guidelines. We have established a protocol to allow most patients to benefit from RC, but that recognizes that some of these patients are fragile and cannot tolerate frequent complications after intestinal urinary diversion[4]. For that reason, we created a scoring system to classify these patients. The fit patients should undergo RC with intestinal diversion (either Bricker diversion or neobladder). Those with an intermediate status we believed could receive the benefit of RC and extended pelvic lymphadenectomy but should not face the risk of an intestinal diversion. For these patients, we performed unilateral cutaneous ureterostomy with a single stoma. Both ureters were placed side-by-side as a double-barrel, or a transureteroureterostomy was performed (**Figure 1**). For the very fragile patients, we found alternative treatments such as radiotherapy (RDT), chemotherapy (CT), transurethral resection (TURB), or combinations of these. Bladder preservation protocols were also offered in specific situations according to disease characteristics and patient preferences[5]. Our scoring system and decision algorithm have been previously published[5].

The principles of fast-track recovery programs were adopted, allowing better preparation and recovery. These strategies included avoiding prolonged fasting, avoiding nasogastric tubes, using chewing gum, avoiding opioids, early mobilization, avoiding excessive volume load, thromboembolism prevention, and minimally invasive procedures. Either extraperitoneal open radical cystectomies (**Figure 2**) or laparoscopic radical cystectomies were performed in most patients, aiming to reduce postoperative ileus and improve recovery. Perioperative care was enhanced by establishing a dedicated team.

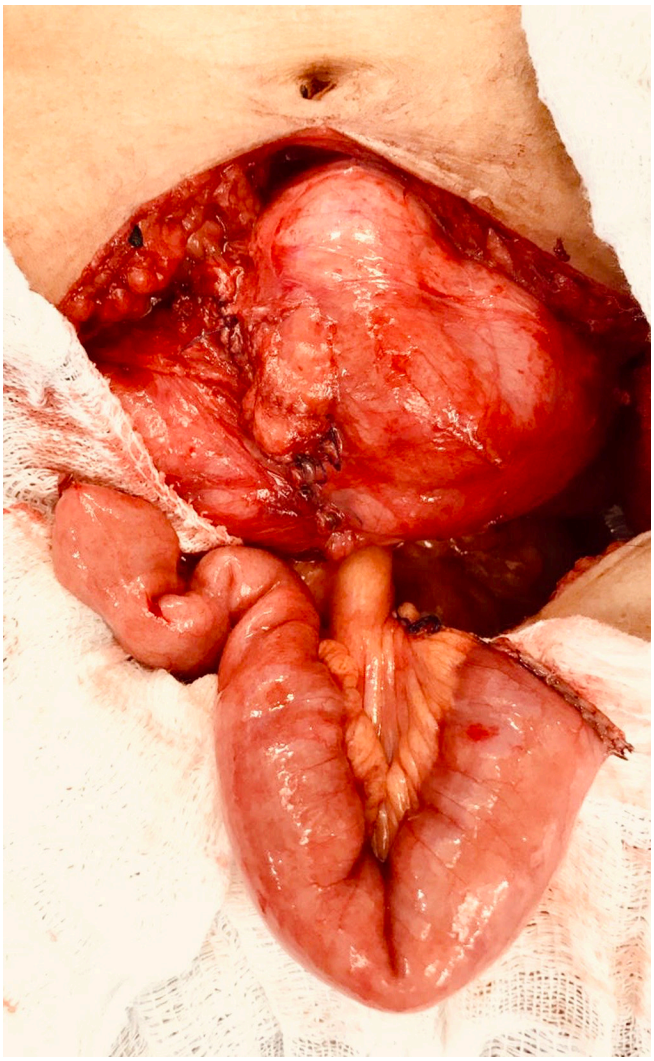
In a short period, we observed remarkable results. Ninety-day mortality was reduced from 37.0% to the current 1.9% rate. Along with that, we could reduce median hospitalization time after surgery from 14 to 5 days. We have currently had 153 patients treated for MIBC since the beginning of the CABEM program.

**FIGURE 1.**


The higher survival rate has also resulted in nurses having more experience in caring for patients with ostomies and oncologists developing greater expertise in treating MIBC, including NAC, adjuvant, and palliative care. We could also improve the recruitment of our research unit[6,7], and we are nowadays the top recruiter center of some of the international trials on bladder cancer in Brazil.

We currently have a preceptorship program to share our experience with other centers, and our main goal is to contribute and share our results with the medical community. We believe that small initiatives can make a huge difference in developing settings.

**FIGURE 2 .**



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