

diffusion of the technique. Few patients have to be recruited; they should be selected for specific characteristics and under a severe regulatory process.

We are looking at advances in urethral reconstruction with the hope that in the laboratory we might one day grow individually customised biologic urethra replacements for patients. Of course, such a revolutionary technique might sooner or later face cuts in expenditures on health care resulting from economic conditions, and we have a substantial way to go before such a dream is to be realised. However, there is room for hope.

Conflicts of interest: The authors have nothing to disclose.

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Re: A Common Mutation in the Defensin DEFB126 Causes Impaired Sperm Function and Subfertility

Tollner TL, Venners SA, Hollox EJ, et al

Sci Transl Med 2011;3:92ra65

Experts' summary:

Tollner and colleagues cogently demonstrate that a common variant in the defensin, beta 126 (*DEFB126*) gene, the “del” variant—a two-nucleotide omission that results in a reading frame shift and generates a nonstop messenger RNA—alters sperm function and can reduce male fertility significantly.

Although no association was found between this polymorphism and semen volume, sperm density, sperm motility, or total motile count, sperm from donors with the *DEFB126* genotype (del/del) consistently showed reduction in binding sites for *Agaricus bisporus* lectin-associated fluorescence and reduced ability to penetrate a surrogate of cervical mucus (hyaluronic acid) compared with sperm from men with either of two others genotypes (wt/wt or wt/del).

Furthermore, the authors found high frequency of a *DEFB126* deletion variant among several population cohorts worldwide (allele frequency: 0.44–0.61). Finally, they observed the association between the presence of this polymorphism and fertility (live birth outcome), finding that the odds of pregnancy (ratio of pregnant to nonpregnant) among couples in which males had the del/del genotype were 60% of those observed for couples in which males had the other two genotypes (odds ratio: 0.6; 95% confidence interval, 0.4–0.9; $p = 0.029$).

In conclusion, the authors show that sperm from del/del homozygotes (male) lack an important component of their glycoprotein coat (O-linked oligosaccharides on β -defensin

protein), altering its ability to penetrate a surrogate for cervical mucus, and that these men have less chance to conceive a live birth.

Experts' comment:

The authors show interesting results about the role of *DEFB126* in fertility outcomes and plausible mechanisms to explain them.

Given that the mechanism underlying the impaired reproductive function in these couples could be related to an altered ability of the sperm to penetrate the cervical mucus, fertility-doctor consultants could guide couples to consider alternative reproductive treatments (ie, in vitro fertilization and intracytoplasmic sperm injection). Nonetheless, it is important to recognize that reduced penetration of cervical mucus might not be the only reason that del/del homozygotes (male) have lower fertility [1]; other functional tests could be used to further evaluate the fertility status of these men [2].

It is remarkable that evaluating this polymorphism among infertile couples is important, and always establishing new causes that could explain infertility is important.

We found it particularly interesting that even though statistical difference was found between the groups, the proportion of fertile men in the del/del-variant group (71%, 72 of 102) was very similar to those in the others two groups (wt/wt: 82%, 128 of 156; wt/del: 80%, 200 of 251). Recognizing this important advance in our understanding of infertility, we still have a long journey to fully comprehend the mechanisms that underlie this problem in couples.

Conflicts of interest: The authors have nothing to disclose.

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Re: Radical Nephrectomy and Inferior Vena Cava Thrombectomy: Outcomes in a Lower Volume Practice

Calhoun JB, Merchen TD, Brown JA

Can J Urol 2011;18:5537–41

Experts' summary:

The authors present their experience at a low-volume center performing radical nephrectomy with infrahepatic ($n = 6$) and retrohepatic ($n = 4$) vena cava thrombectomy. Surgeries were performed on a total of 10 patients over a period of 7 yr (mean: 1.4 cases per year) by a single urologist with the assistance of vascular and liver transplant surgeons.

Of the 10 patients, 6 were male and 4 were female. Patients had a mean age of 58.4 yr. Eight patients underwent renal artery embolization prior to nephrectomy. Liver mobilization was used in four cases. No perioperative deaths occurred. At a median follow-up of 11 mo, four patients were found to have postoperative metastases, with two dying from their disease. The authors report a procedure-related complication rate of 40%.

Experts' comments:

We congratulate Calhoun et al for reporting on their experience at a low-volume center. The authors experienced no intra- or perioperative mortalities and report a good oncologic outcome. However, the authors report a high complication rate of 40%. Complications reported include mesenteric injury ($n = 2$), postoperative abscess ($n = 1$), retroperitoneal hematoma ($n = 1$), pancreatic injury ($n = 1$), and splenic capsular tear ($n = 1$). Although this procedure is technically challenging, and therefore prone to such complications, this rate is high compared with those reported by higher-volume centers. For example, Karnes and Blute [1] reported a 20% complication rate in treating 201 patients with level I–III tumor thrombus at the Mayo Clinic.

Calhoun et al report that 80% of patients underwent preoperative renal artery embolization prior to nephrectomy. At our high-volume center, we do not use this practice but rather we advocate for early renal artery ligation [2–4]. Early ligation of the renal artery achieves the same effect of embolization by collapsing arterial inflow to the kidney and tumor. This spares the patient an extra procedure and its associated complications. Lin et al [5] found that when compared with staged preoperative

embolization, an intraoperative approach minimizes post-infarction syndrome, patient discomfort, length of hospital stay, and cost.

Management of renal cell carcinoma with caval thrombus should be a multidisciplinary approach. We applaud the authors for their active involvement of surgeons from diverse surgical backgrounds. We agree that the management of these patients should be a team approach. Moreover, adequate preoperative workup is the key to a safe and successful surgical outcome. At our center, medical, cardiac, and anesthetic preoperative consultations are mandatory. We also feel that a hospital intensivist, an interventional radiologist, and a cardiothoracic team capable of placing a patient on cardiopulmonary bypass if needed should be consulted preoperatively. Given this multidisciplinary approach, we feel the best option for patients with renal cell carcinoma with tumor thrombus of the vena cava is referral to a high-volume center where all specialties involved have some degree of experience in dealing with these patients. We believe that this multidisciplinary approach is critical for minimizing complications related to radical nephrectomy with vena cava thrombectomy.

Conflicts of interest: The authors have nothing to disclose.

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