

pheochromocytoma has been described, the authors report a large series with a very high incidence of this lesion (57.6%). The reported frequency of incidental pheochromocytomas is 1.5 - 23 (1). As we know pheochromocytomas appears usually as a large (> 3 cm in diameter), well-defined mass and with a density near that of muscle on unenhanced CT scans. Small lesions however can be homogeneous. On post contrast scans larger lesions often shows marked and heterogeneous enhancement due to its vascularity and presence of tissue necrosis or internal hemorrhage. In this study the median size of pheochromocytomas was 4.25 cm (ranging from 2.6 to 11.2 cm). The authors pointed out that based on size alone a pheochromocytoma could be mistaken for an adenoma by the radiologist. It is not recommended however to use the size as the only criterion to determine if an adrenal incidentaloma is an adenoma or not. Radiologist should also be aware that all adrenal incidentalomas requires further biochemical investigation to determine if the mass (even with radiologic features of an adenoma), is hormonally active or not. An interesting finding of this report is that no attenuation value of any pheochromocytoma in this series was less than 10 H on unenhanced CT scans (median, 35 H; range, 17-59 H). This information is similar to our experience. In a recent revision of the imaging findings of 8 incidental pheochromocytomas of our series, all lesions presented with a density higher than 27 H on unenhanced CT scans. This finding would make almost impossible an incidental pheochromocytomas to be considered as a lipid-rich adenoma (the majority of lipid-rich adrenal adenomas measures equal to or less than 10 H). We should also remember that sporadic cases of adrenal pheochromocytomas containing sufficient intracellular fat to display CT densities similar to lipid-rich adenoma has been described (2). The authors considered that one of the limitation of this study was the lack of the washout studies. Regarding the washout profiles adrenal pheochromocytomas may display a variable washout pattern; similar to metastases in some cases and similar to adenomas in others. We feel however that this technique has some limitations for the evaluation of adrenal pheochromocytomas, particularly the larger ones. Since determination of washout curves requires that at least two thirds of the mass present homogeneous attenuation and these lesions frequently shows areas of necrosis or hemorrhage, an accurate quantification of washout curve would be more difficult to obtain. A prospective study of a larger number of cases would be interesting.

### References

1. Barzon L, Boscaro M: Diagnosis and management of adrenal incidentalomas. *J Urol.* 2000; 163: 398-407.
2. Blake MA, Krishnamoorthy SK, Boland GW, Sweeney AT, Pitman MB, Harisinghani M, Mueller PR, Hahn PF: Low-density pheochromocytoma on CT: a mimicker of adrenal adenoma. *AJR Am J Roentgenol.* 2003; 181: 1663-8.

***Dr. Adilson Prando***

*Chief, Department of Radiology  
Vera Cruz Hospital  
Campinas, São Paulo, Brazil*

## UROGENITAL TRAUMA

---

### **Erectile dysfunction after a long-distance cycling event: associations with bicycle characteristics**

Dettori JR, Koepsell TD, Cummings P, Corman JM

Department of Epidemiology, School of Public Health and Community Medicine, University of Washington and Department of Urology, Virginia Mason Medical Center, Seattle, USA

*J Urol.* 2004; 172: 637-41

**Purpose:** We conducted a prospective cohort study to examine the relationship between bicycle characteristics and the occurrence of erectile dysfunction.

**Materials and Methods:** Subjects consisted of 463 cyclists completing a cycling event of at least 320 km who were free of erectile dysfunction before their event.

**Results:** The cumulative incidence of erectile dysfunction after the ride was 4.2% (95% confidence interval [CI] 2.4%-6.8%) and 1.8% (95% CI 0.7%-3.8%) 1 week and 1 month after the event, respectively. Bicycle characteristics associated with an increased risk of erectile dysfunction included a mountain bicycle compared with a road bicycle (risk ratio [RR] 4.1, 95% CI 1.6-12.5), and the relative height of the handlebars parallel with or higher than the saddle compared with the relative handlebar height lower than the saddle (RR 3.0, 95% CI 1.1-9.3). Perineal numbness during the ride was experienced by 31% of the cyclists and was associated with erectile dysfunction (RR 4.4, 95% CI 1.6-12.7). Saddle cutouts were associated with an increased risk of erectile dysfunction among those who experienced numbness (RR 6.0, 95% CI 1.3-27.1), but the association was reversed among those who did not report numbness (RR 0.3, 95% CI 0.0-2.5).

**Conclusions:** If the associations described are causal, then cyclists on a long-distance ride may be able to decrease the risk of erectile dysfunction by riding a road bicycle instead of a mountain bicycle, keeping handlebar height lower than saddle height and using a saddle without a cutout if perineal numbness is experienced.

### **Editorial Comment**

Although bicycle seats are now commonly sold with labels that purport preserving sexual function and “Urologist approved”, the data is inconsistent as if different shaped seats (grooved, cut-out) can prevent urethral stricture or erectile dysfunction. In fact, contrary to other studies, Dettori et al. found no association with saddle tilt, width or padding and impotence. Overall, the above study is nicely designed and executed, yet is weakened by a small cohort size of impotent bicyclists and a high non-responder rate (> 20%). Regardless they found a strong association between transient impotence and perineal numbness, riding with an “upright” posture and impotence. Such complications seem to be logical consequences of pudendal nerve and arterial compression as the course through Alcock’s canal and medial to the inferior pubic ramus. Further evidence of arterial compromise is penile transcutaneous oxygen pressure studies in long distance bicyclists, which have shown decreased penis glans perfusion while seated on a saddle.

Although bicycling is an excellent non-impact aerobic exercise, aside from impotence, there are numerous other potential GU complications. In a recent review article, Leibovitch & Mor (1), reviewed the published literature on the common side effects of bicycling as pudendal nerve entrapment syndrome, erectile dysfunction, priapism, hematuria, prostatitis, elevated PSA, perineal folliculitis, and subcutaneous perineal nodules/ induration. Repetitive trauma complications differ from straddle injuries to the bicycle bar, where the bulbar urethra can be damaged by a crush injury against the pubic bone. In such cases, a mid bulbar, short and single stricture typically develops.

### **Reference**

1. Leibovitch I, Mor Y: The vicious cycling: bicycling related urogenital disorders, *Eur Urol.* 2005; 47:277-86.

***Dr. Steven B. Brandes***

*Associate Professor, Division of Urologic Surgery*

*Washington University in St. Louis*

*St. Louis, Missouri, USA*

**The usefulness of transcatheter arterial embolization for patients with blunt polytrauma showing transient response to fluid resuscitation**

Hagiwara A, Murata A, Matsuda T, Matsuda H, Shimazaki S

Department of Traumatology and Critical Care Medicine, School of Medicine, Kyorin University, Tokyo, Japan

*J Trauma. 2004; 57: 271-6; discussion 276-7*

**Background:** This study aimed to determine whether nonsurgical management using transcatheter arterial embolization (TAE) is safe for patients with blunt multiple trauma who transiently respond to the initial fluid resuscitation.

**Methods:** Contrast computed tomography was performed for patients with blunt abdominal injuries, excluding those who did not respond to initial fluid resuscitation. Angiography was performed for patients with injuries showing contrast extravasation or solid organ injury classified, according to the American Association for the Surgery of Trauma, as grade 3 or higher on computed tomography. Transcatheter arterial embolization was performed when angiography showed arterial extravasation. The protocol was abandoned for any patients who became profoundly hypotensive (with systolic blood pressure 60 mm Hg or lower) during computed tomography or angiography.

**Results:** Between January 2000 and December 2002, 269 patients with blunt abdominal injuries underwent TAE immediately after admission. Of these patients, 41 had injuries in at least two regions and underwent TAE for these regions. Among them, 22 patients were hemodynamically stable or showed rapid response to fluid resuscitation. The nonsurgical treatment was successful in all these cases. The remaining 19 patients (Injury Severity Score, 37.3 +/- 8.2), who showed a transient response, were the subjects of this study. Of these patients, 15 underwent TAE for injuries in two regions (13 pelvic fractures, 7 splenic injuries, 6 hepatic injuries, 3 facial bleeding, and 1 renal injury), and 4 patients underwent TAE for injuries in three regions (4 had splenic injuries, 3 hepatic injuries, 2 renal injuries, 2 pelvic fractures, and 1 facial bleeding). For all these patients, TAE was successfully performed. Before TAE, the systolic blood pressure was 79.9 +/- 8.4 mm Hg, and the shock index was 1.45 +/- 0.25 mm Hg. After TAE, the corresponding values were 120.6 +/- 19.3 mm Hg and 0.87 +/- 0.16 mm Hg, respectively ( $p < 0.001$ ). The rate of fluid administration required after TAE (214.2 +/- 139.3 mL/hour) was significantly less than that required before TAE (1244.2 +/- 347.1 mL/hour; range, 632-1,728 mL/hour) ( $p < 0.001$ ). The deaths of two patients were classified as nonpreventable on the basis of the Trauma and Injury Severity Score (TRISS), and their respective probabilities of survival were determined to be 0.13 and 0.03.

**Conclusion:** Nonsurgical management using TAE can be performed safely even for patients with blunt multiple trauma who are in hemorrhagic hypotension if their hemodynamics are improved by resuscitation with 2 L of fluid.

**Editorial Comment**

This article nicely reviews contemporary treatment methods for unstable pelvic fractures, and presents a easy to follow protocol. In general, pelvic bleeding can be from a venous or arterial source. Methods to control venous bleeding are pelvis stabilization and closure of the pelvic ring. By doing so, the volume of the pelvis is markedly reduced; and thus allows venous bleeding to tamponade and promote hemostatic pathways in a confined space. Furthermore, re-approximated open bony surfaces will control cancellous bleeding. The typical methods employed are non invasive methods, external stabilization or internal stabilization. Placement of an anterior pelvic external fixator is typical; and if the patient is too unstable to go to the operating room, then temporary stabilization is achieved with military anti-shock trousers, pelvic "binder", or a pelvic "C" clamp in the emergency room.

When pelvic arterial bleeding exists, arteriography and trans-catheter embolization of the bleeding arteries are often required. Pelvic arterial injuries from pelvic fracture are in decreasing frequency, to the internal pudendals, superior gluteal, obturator and lateral sacral arteries. Arteriography is indicated in the presence of ongoing blood loss after intra-abdominal sources have been eliminated and the pelvis, at least temporarily, is stabilized. In stable patients, contrast blush on CT imaging indicates a high likelihood of arterial injury and angiography and embolization should be pursued.

**Dr. Steven B. Brandes**

*Associate Professor, Division of Urologic Surgery  
Washington University in St. Louis  
St. Louis, Missouri, USA*

## **PATHOLOGY**

---

### **Propionibacterium acnes associated with inflammation in radical prostatectomy specimens: a possible link to cancer evolution?**

Cohen RJ, Shannon BA, McNeal JE, Shannon T, Garrett KL  
Uropath Pty Ltd, Perth, Western Australia  
*J Urol.* 2005; 173: 1969-74

**Purpose:** Inflammation is commonly observed in the prostate gland and has been implicated in the development of prostate cancer. The etiology of prostatic inflammation is unknown. However, the involvement of a carcinogenic infectious agent has been suggested.

**Materials and Methods:** Prostatic tissue from 34 consecutive patients with prostate cancer was cultured to detect the presence of bacterial agents. Prostatic inflammation was assessed by histological examination of wholemount tissue sections.

**Results:** The predominant microorganism detected was *Propionibacterium acnes*, found in 35% of prostate samples. A significantly higher degree of prostatic inflammation was observed in cases culture positive for *P. acnes* ( $p = 0.007$ ). *P. acnes* was separated into 3 groups based on cell surface properties, phenotype and genetic grouping. All skin control isolates were classified as group 1 whereas most prostatic isolates were classified as groups 2 and 3.

**Conclusions:** *P. acnes* has been isolated from prostatic tissues in men who underwent radical prostatectomy for localized cancer and has been shown to be positively associated with prostatic inflammation. This inflammation may then be linked to the evolution of carcinoma. Furthermore, organisms infecting these patients with prostate cancer differ genetically and phenotypically from the commonly identified cutaneous *P. acnes* isolates, suggesting that specific subtypes may be involved in development of prostatic inflammation.

### **Editorial Comment**

This is a very exciting article considering that recently the authors that implicated *Helicobacter pylori* to the pathogenesis of both peptic ulcer and gastric carcinoma were awarded the Nobel Prize.

Chronic inflammation of longstanding duration has been linked to the development of carcinoma in several organ systems (1-3). In the prostate, chronic inflammation is associated with both postatrophic hyper-