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库珀氏囊肿（尿道球部囊肿）的研究

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库珀氏囊肿（来自希腊 *syringo*—囊管, *cele*—扩张），或尿道球部囊肿—是球状尿道腺体（库伯腺）排泄管的囊性扩张。该病极为罕见，多见于儿童。库珀氏囊肿的临床表现是非特异性的，取决于许多因素：大小，定位，与尿道的沟通，感染过程。如果没有特殊的放射和内镜诊断方法，库珀氏囊肿的发现是不可能的。最常见的情况是，这种病理表现被掩盖为生殖器官的炎症性疾病，因为这些症状仅限于尿道外开口的分泌物、尿的一般分析变化和排尿困难的表现。目前，国内外文献中对该病理的研究还不到20篇。

关键词：尿道球部囊肿；尿道球腺；库伯腺；囊肿。

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Cooper's syringocele (bulbourethral cyst)

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Bulbourethral cyst or Cowper's syringocele (from the Greek "syringe" – tube, "cele" – expansion) is a cystic expansion of the excretory ducts of the bulbourethral glands (Cowper's glands). This disease is extremely rare and is more often diagnosed in the child population. The clinical manifestations of syringocele are non-specific and depend on many factors: size, localization, communication with the urethra, and the presence of an infectious component. Detection of syringocele is impossible without the use of special radiation and endoscopic diagnostic methods. Most often, this pathology is "masked" under inflammatory diseases of the genitals due to the fact that the symptoms are limited to secretions from the external opening of the urethra, changes in the general analysis of urine and dysuric manifestations. Currently in the domestic and foreign literature there are not even 20 publications devoted to this pathology.

Keywords: bulbourethral cyst; bulbourethral glands; Cowper's glands; syringocele.

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Сирингоцеле Купера (бульбоуретральная киста)

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Сирингоцеле Купера (от греч. *syringo* — труба, *cele* — расширение), или бульбоуретральная киста, — это кистозное расширение выводных протоков бульбоуретральных желез (куперовых желез). Встречается данное заболевание крайне редко и чаще диагностируется у детей. Клинические проявления сирингоцеле Купера неспецифичны и зависят от многих факторов: размеров, локализации, сообщения с уретрой, наличия инфекционного процесса. Выявление сирингоцеле невозможно без применения специальных лучевых и эндоскопических методов диагностики. Чаще всего данная патология «маскируется» под воспалительные заболевания половых органов ввиду того, что симптоматика ограничивается выделениями из наружного отверстия уретры, изменениями в общем анализе мочи и дизурическими проявлениями. В настоящее время в отечественной и зарубежной литературе не наберется и 20 публикаций, посвященных данной патологии.

Ключевые слова: бульбоуретральная киста; бульбоуретральная железа; куперова железа; сирингоцеле.

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绪论

第一次提到球尿道腺是在1684年Jean Mery的研究中(图1, a)。在未来, William Cowper(图1, b)在其1699年发表于伦敦皇家学会笔记的研究《An account of two glands and their Excretory ducts Lately discovered in Human Bodies》中对它们进行了更详细的描述。W. Cowper描述了它们(图2), 描述如下: “……在前列腺下方四分之一英寸的地方, 我发现了另外两个小腺体, 位于尿道两侧, 略高于海绵状体的球泡。这些腺体呈椭圆形, 大小不超过一颗法国小豆。” [1]。

尿道球腺是一种成对的圆形器官, 大小可达几毫米, 位于膜性尿道后方, 大约位于条件刻度盘的3点和9点, 在尿道球状部分有排泄管开口。它们的主要功能是将射精前的精液释放到男性生殖道[2, 3]。

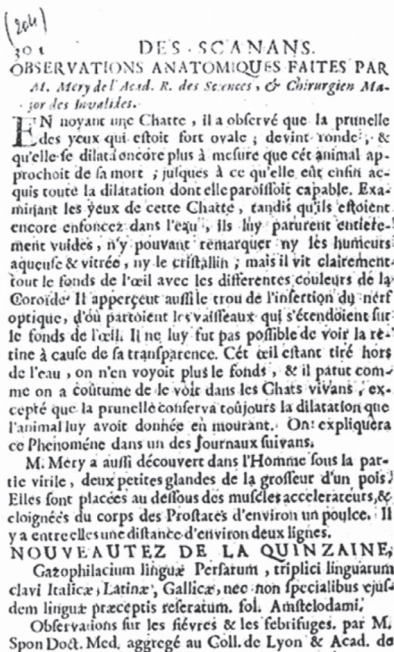
1983年, M. Maizels首先描述了库珀氏囊肿, 随后他提出将其分为四种类型: 简单型、穿孔型、非穿孔型和破裂型[4]。在M. Maizels所描述的库珀氏囊肿的形式中, 最难识别的是非穿孔型, 在大多数病例中可无临床症状。单纯性、穿孔性和破

裂性库珀管囊肿的区别仅仅在于尿道球腺出口管的扩张程度以及是否存在与尿道相通的导管。R. Bevers等人[5]提出了一个简化的分类(图3), 其中包括两种库珀氏囊肿的类型: 开式和闭式。

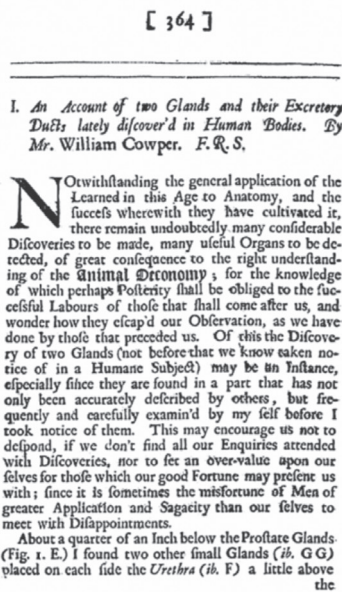
开式型库珀氏囊肿的特点是会阴部疼痛, 尿道外口有分泌物, 尿路反复感染和排尿后渗漏。闭式型中, 会阴疼痛、排尿困难和梗阻性症状最为常见[6]。

P. Campobasso等人[7]分析了15例库珀氏囊肿患者的资料, 提出根据其临床表现将球尿道囊肿分为梗阻性和非梗阻性。同时, 发现了以下规律: 对于非梗阻性囊肿, 复发性下尿路感染是比较典型的症状, 血尿, 发烧, 尿漏; 而对于梗阻性囊肿—尿流测量和超声显示的膀胱下梗阻的征象。

该病的临床表现变化很大, 主要取决于其类型。库珀氏囊肿患者的症状与下尿路的症状相似: 尿急, 排尿后漏尿, 尿失禁, 复发性尿路感染, 血尿, 尿道分泌物。对于开式型囊肿, 排尿后漏尿更为典型, 漏尿强度取决于囊肿的形态、走行和暴露的深度[5]。



a



b

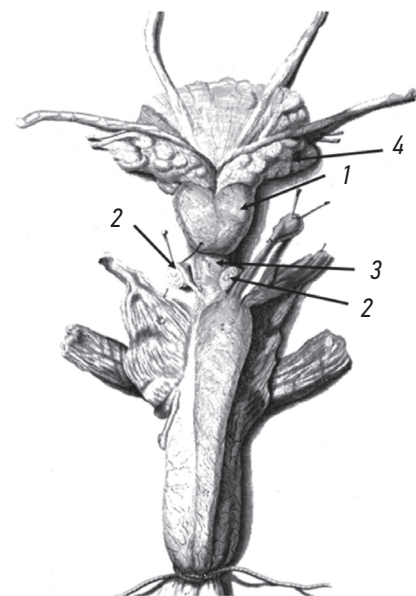


图1. 描述尿道球腺的出版物页: a—1684年《Journal des scavans》法国版Jean Mery的首次描述; b—W. Cowper《An Account of Two Glands and Their Excretory Ducts Lately Discover'd in Human Bodies》(1699)的扉页

Fig. 1. Page of editions describing the bulbourethral glands: a – the first description of Jean Mery from the French edition of the Journal des scavans (1684); b – title page of W. Cowper's work "An Account of Two Glands and Their Excretory Ducts Lately Discover'd in Human Bodies" (1699)

图2. 男性小骨盆的器官复合体(根据W. Cowper, 1699)。1—前列腺; 2—尿道球腺; 3—尿道; 4—精囊

Fig. 2. Organocomplex of the small pelvis of a man according (to: W. Cowper, 1699). 1 – prostate gland, 2 – bulbourethral glands, 3 – urethra, 4 – seminal vesicles

尿道球部囊肿的诊断是基于对病人的回忆和主诉的全面收集,并考虑他的年龄,辅以放射和内窥镜检查的数据。J.Melquist等人[6]提出了一种简单的诊断囊肿的算法。然而,在我们看来,建议补充这种方法,以鉴别诊断疾病,如尿石症、下尿路和男性生殖器官炎症性疾病、尿道狭窄,以及盆腔器官肿瘤(图4)。

在库珀氏囊肿患者中,白细胞增多和细菌尿常在一般尿液分析和细菌尿培养中检测到菌群[8]。超声检查对闭式型尿道球部囊肿有帮助,当腔被确定时。如果开式型囊肿在研究时已经排空,那么这个诊断方法可能是没有意义的[9]。对骨盆的磁共振成像(MRI),加上对尿道的研究,具有很高的敏感性和特异性,因为它可以可靠地观察囊肿腔,并确定其与尿道的关系[10]。

在进行尿道镜检查时,可以通过观察导管(尿道壁的缺陷)来诊断开式型囊肿。闭式型囊肿的特点是囊壁脱垂入尿道腔内,如果囊腔内充满液体内容物。大多数作者倾向于认为MRI尿道镜检查是诊断库珀氏囊肿最有信息的方法[6,10]。



图 3. 根据R. Bevers的分析,库珀氏囊肿的类型[5]: a—闭式型; b—开式型

Fig. 3. Types of Cowper's syringocele according to R. Bevers [5]: a - closed; b - open

根据文献,无症状的尿道球部囊肿在保守治疗的背景下,最常发生自发性消退和缩小。同时,有症状的囊肿需要手术干预[11]。对于库珀氏囊肿患者的手术治疗,目前使用的是会阴开放通道和内窥镜技术,包括电手术和激光手术,包括尿道球部囊肿前壁的切除或其开口和有袋化[12,13]。R.Bevers等人[5]报道了几例经尿道球尿道囊肿前壁剥离的患者,随访时间为23个月,无复发。B.Santin等人[14]通过尿道切开囊肿前壁后疾病复发,提出了通过间质结扎球性腺导管的

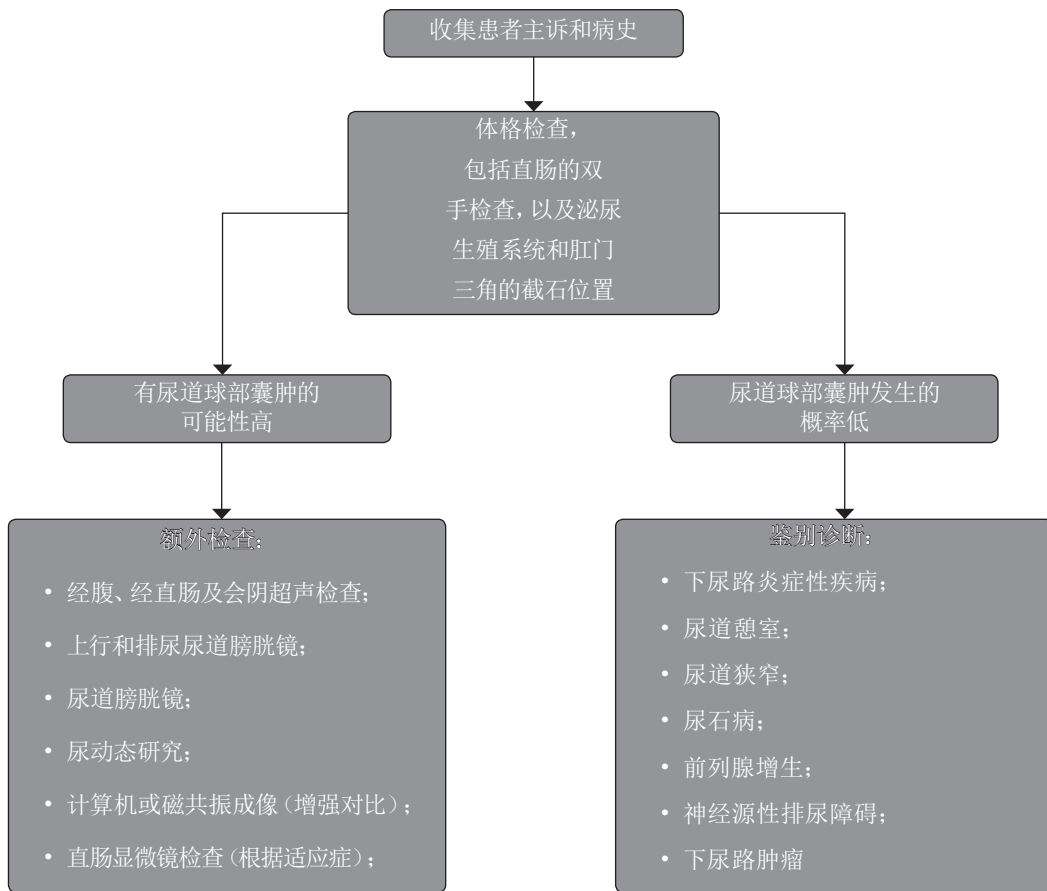


图 4. 提出的诊断库珀氏囊肿的算法

Fig. 4. Proposed algorithm for the diagnosis of Cowper's syringocele

方法。会阴切除尿道球部囊肿仅因其较大且经尿道切除后复发而被认为是合理的。同时,作者并没有指出囊肿体积应该有多大[15]。

有一些独立的报道成功的腹腔镜治疗库珀氏囊肿和在超声导航下通过会阴方法将一种由四环素类盐酸米诺环素组成的半合成抗生素引入囊肿腔内的闭式型囊肿硬化治疗。在腹腔镜下尿道球部囊肿的病例中, M.Cerqueira等人描述了手术治疗大型库珀氏囊肿(10×10×8 cm)的临床经验,该囊肿从骨盆脱出进入腹腔,因此可以通过腹膜进入腹腔[16,17]。

临床观察

Sh.患者,19岁,于2020年8月入住The S. M. Kirov Military Medical Academy泌尿科诊所,主诉排尿时沿尿道有周期性钝性拉扯痛,会阴部不适。从病史中可以得知,上述担忧是在大约两周前遭受体温过低后产生的。指直肠检查:前列腺适度增大,无波动区域。双手检查显示会阴

部有中度疼痛。一般临床和生化血液分析指标均在参考值范围内。尿液分析显示白细胞数可达15-20在视野范围内。尿细菌学检查获得解葡萄糖醛酸溶解棒状杆菌(*Corynebacterium glucuronolytic*) 5×10^3 CFU/ml的生长情况。超声检查肾脏及膀胱未见病理改变,前列腺体积 23.1 cm^3 ,无残尿。尿流仪最大排尿率为 33.7 ml/s ,平均排尿率为 15.1 ml/s ,排尿时间为 32.3 s ,排尿量为 468.7 ml (图5)。

诊断为急性前列腺炎。行抗菌治疗(左氧氟沙星 500 mg ,每天1次,连续10天)、抗炎治疗(双氯芬酸 100 mg ,直肠注射7天)、 α 受体阻滞剂治疗(坦索洛辛每日 0.4 mg ,连续10天)。实验室参数恢复正常,但排尿时仍有会阴周期性疼痛。

考虑到从泌尿科医院出院2个月后,前列腺停止炎症过程,患者接受了随访检查,以便根据上面提出的算法进行鉴别诊断,表现为上升尿道造影,骨盆和外生殖器的MRI,尿道镜检查(图6)。

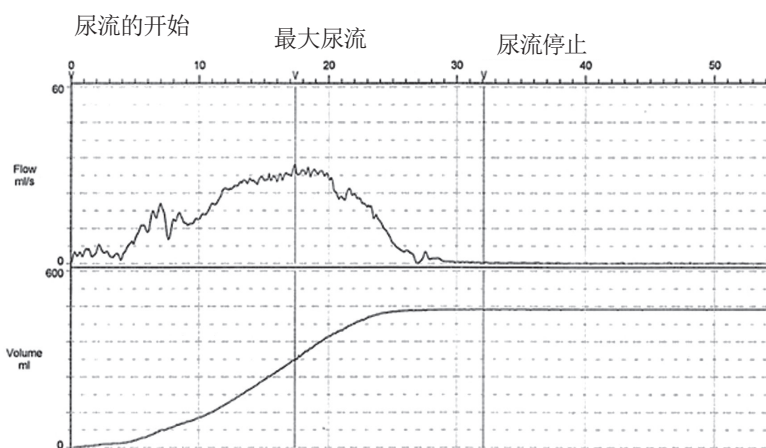


图.5. 19岁, Sh.患者的尿流率测定

Fig. 5. Uroflowgram of patient Sh., 19 years old



图.6. 19岁, Sh.患者: a—上行尿道造影,确定尿道球部囊肿所在位置所对应的充盈缺损(箭头所指); b, c—骨盆核磁共振成像,在两个突起处,确定囊肿形成一囊肿有很薄的分隔(用箭头表示)

Fig. 6. Patient Sh., 19 years old: a – ascending urethrography of the filling defect corresponding to the location of the bulbourethral cyst is determined (indicated by the arrow); b, c – magnetic resonance imaging of the small pelvis, in two projections a cystic formation is determined – a syngocele with thin septa (indicated by arrows)

行上行尿道造影时,尿道完全通畅,在球部切面,沿腹面可见清晰、均匀的填充缺损,尺寸为 0.4×4.0 cm,无造影剂渗漏,随后药物进入膀胱(图6, a)。

根据MRI资料,尿道旁沿膀胱颈部远端3.5 cm正中可见一个不与尿道相通的囊状结构,大小为 $4.2 \times 1.3 \times 1.5$ cm。囊肿的内部结构被三层薄隔板隔开,隔板内液体成分均匀。

在尿道镜检查中,可在球根部确定库珀氏囊肿前壁延伸至尿道腔内(图7)。

在追加检查的基础上确诊为闭合型尿道球部囊肿。

经非甾体抗炎药和 α 受体阻滞剂保守治疗后,症状消退一个月。在3个月后的对照检查中,根据尿道镜检查,确定尿道中有一个尖管,这是开式型囊肿的标志,而MRI显示没有先前观察到的液体形成(图8)。

考虑到无症状,开式型的库珀氏囊肿和年轻的年龄,患者出院在门诊监护下。

结论

由于其发生极为罕见,目前对于库珀氏囊肿患者的诊断和治疗尚无单一清晰的算法。尽管如此,当检查有泌尿生殖系统炎症症状或膀胱下梗阻症状的男性、男孩和青少年时,有必要记住这个病理。我们认为,对于库珀氏囊肿的鉴别诊断,除了体格检查和双手检查外,建议根据我们修改的检查算法,同时采用放射(超声检查, MRI增强扫描)和内镜(尿道膀胱镜)两种检查方法。

在保守治疗中,有可能实现囊肿大小的回归或其自发进入尿道腔的开口。在选择手术治疗方法时,必须记住手术指征是明显的疼痛综合征、膀胱下梗阻的征象和囊肿化脓,并经放射诊断方

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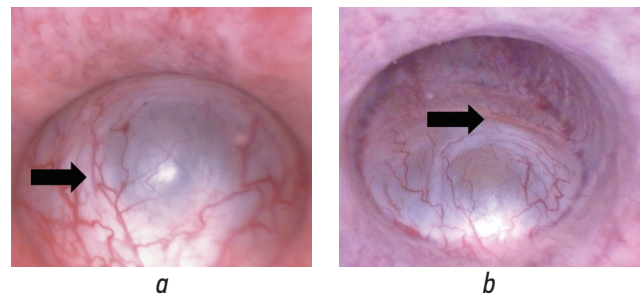


图7. 19岁, Sh. 患者尿道镜的分析: a—尿道球部囊肿前壁; b—囊肿中的隔膜(箭头所指)

Fig. 7. Urethroscopic picture of patient Sh., 19 years old: a - the anterior wall of the bulbourethral cyst; b - the septum in the cyst (indicated by arrows)

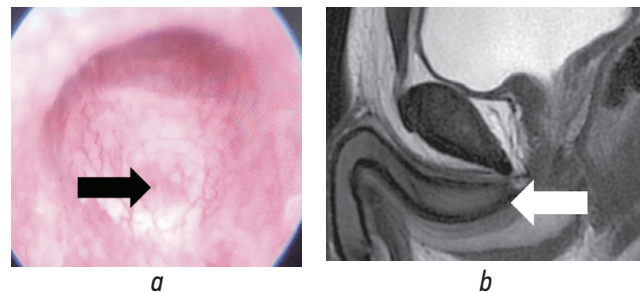


图8. 19岁, Sh. 患者: a—尿道镜图(箭头所指为排空的囊肿); b—无囊肿扩张迹象的骨盆对照磁共振断层扫描图(箭头表示囊肿的位置)

Fig. 8. Patient Sh., 19 years old: a - urethroscopic picture of (the arrow indicates the "window" of the emptied cyst); b - control magnetic resonance imaging of the small pelvis without signs of cystic enlargement (the arrow indicates the place of the previously located cyst)

法证实。同时,在手术治疗库珀氏囊肿的一线应优先考虑内镜方法。

附加信息

利益冲突作者声明,没有明显的和潜在的利益冲突相关的发表这篇文章。

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