

直肠、阴道腔内超声 与阴囊多普勒超声诊断

主编：林礼务

厦门大学出版社

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前 言

超声医学发展迅速,尤其是近年来,腔内超声和彩色多普勒超声技术取得了许多突破性进展。经腹超声对腹腔脏器的诊断水平已获临床医师的普遍信赖,但对盆腔的许多脏器及其疾病(如直肠、膀胱、前列腺、精囊腺、子宫、输卵管、卵巢以及盆底软组织等)的诊断,常由于肠道内气体的干扰而影响其准确性。因此国内外学者从20世纪80年代起即开始研究直肠、阴道腔内超声对上述脏器的检测技术,并取得了长足的进展。随着高频率探头的分辨力和多普勒灵敏度的不断提高,阴囊内绝大部分疾病已能够通过超声检查获得准确诊断。本书作者于80年代末即采用直肠、阴道腔内超声及阴囊多普勒技术对上述盆腔脏器与阴囊疾病进行研究,迄今为止已积累数千病例资料。本书于国内首次全面并详细介绍直肠、阴道腔内超声以及阴囊疾病的多普勒超声诊断技术的适应证、禁忌证、有关脏器超声解剖、临床检测技术以及临床应用评价。重点介绍直肠腔内超声对直肠癌的诊断与鉴别诊断技术,以及对直肠癌分期与淋巴结转移的诊断标准与技术要点,对临床提高直肠癌的治愈率与减少复发率起了极其重要的作用,通过直肠腔内超声还能显著提高对直肠周围脏器如前列腺、膀胱、尿道等疾病的诊断率。通过阴道超声检测可对尿道、阴道、直肠、盆隔、子宫、输卵管及卵巢等疾病进行十分准确的诊断,提供了通常经腹部超声难以获得的诊断信息。通过阴囊多普勒超声可准确对阴囊及其内容物如睾丸、附睾等疾病进行诊断与鉴别诊断,其准确率可高达95%以上,是目前临床上不可缺少的检测技术。本书内容是根据作者新积累的研究成果与技术资料编著而成,已被卫生部批准为国家级医学继续教育项目(编号99-09-02-009),并成功举办两期全国学习班。全书约280千字附各类疾病典型图照300多幅,内容丰富,图文并茂。相信本书的出版将对直肠、阴道腔内超声及阴囊多普勒技术的提高与普及起积极促进作用,本书可供医学院校学生、医学影像专业医师以及临床医师参考,也可作为超声医学教学的参考书。

本书不足之处,敬请诸位专家、同道予以指正。

福建医科大学协和医院超声科

林礼务

2001.5

内 容 简 介

第一部分为直肠腔内超声检查 本书第一部分全面地介绍了经直肠腔内超声诊断及临床评价,其主要内容有:第1、2章主要对肛管、直肠的解剖结构,包括对直肠壁的解剖层次、直肠壁周围肌肉、周围间隙以及肛门直肠的血循环、淋巴组织等进行简要叙述,并重点介绍腔内超声层次的解剖基础;第3章描述直肠腔内超声的检查方法,提出直肠腔内超声检查的适应证、禁忌证和注意事项以及正常直肠壁及其周围组织结构的声像图;第4章较详细介绍常见直肠疾病的直肠腔内超声诊断方法,尤其对直肠癌的诊断与鉴别诊断及其超声分期与淋巴结转移等作了重点叙述,并对直肠壁的其他肿瘤、直肠息肉、直肠粘膜慢性炎症、直肠膀胱瘘及直肠壁囊肿等声像特点作了叙述。此外,还较详细介绍了直肠周围疾病,如直肠周围间隙感染性疾病,骶尾部肿瘤与直肠动脉瘤等的超声诊断方法。

本部分的另一重点是书中的第5~10章,主要内容是详细介绍应用直肠腔内超声诊断前列腺、精囊腺与膀胱三角区、尿道内口等部位的疾病。首先较详细叙述前列腺、精囊腺的超声解剖、超声检查方法,尤其经直肠腔内超声检查前列腺的技术要点以及正常声像图包括彩色多普勒血流显像的表现,接着以较大篇幅介绍前列腺增生、前列腺癌及其他前列腺疾病的超声诊断方法,突出直肠腔内超声对上述前列腺疾病的诊断与鉴别诊断价值,以及前列腺增生与前列腺癌的彩色多普勒超声表现。此外对精囊腺疾病的直肠腔内超声诊断法,以及直肠腔内超声对膀胱三角区占位性病变与尿道内口肿瘤的诊断价值也作了较详细的介绍。

第二部分为阴道腔内超声检查 主要内容为:第一章简述女性盆腔结构、脏器的解剖学概要;第二章介绍经阴道超声检查的适应证、禁忌证与技术要点;第三章、第四章和第五章重点叙述女性盆腔结构、脏器的经阴道超声解剖及经阴道超声在肛管、直肠疾病、女性尿道疾病和女性生殖系统疾病诊断中的应用。尤其详细地介绍了以往有关书籍和资料中常被忽略的经阴道超声在女性尿道、阴道、直肠及盆隔结构疾病诊断中的应用。并在介绍经阴道超声在女性生殖系统疾病诊断中的应用时,重点突出了输卵管疾病检查诊断技术,提供了经腹超声难以提供的诊断信息。同时还对宫颈疾病、子宫内膜疾病及子宫腔内异常结构的鉴别诊断和卵巢疾病的早期诊断等作了较详细的叙述,在这些方面经阴道超声扫查技术显示了相对于经腹超声的优越性。

第三部分为阴囊及其内容物的超声检查 本部分内容主要介绍阴囊及其内容物的超声解剖和正常超声表现,以及阴囊内各疾病的超声诊断。书中第一、二章详细地描述了阴囊、睾丸、附睾以及精索的形态学解剖,对超声能显示的细小结构(如睾丸附睾附件、迷走小管等)也做了详尽的介绍。由于阴囊内的血管系统是彩色多普勒诊断的基础,因此在本章节中较全面地描述了阴囊内各血管的解剖结构,重点强调睾丸动脉、精索内静脉、蔓状静脉丛及提睾肌静脉的走向特点,以便于检查者能较快地掌握检测这些血管的技术要点;第三章除了介绍仪器调节和常规操作方法外,重点描述阴囊内各血管的彩色及脉冲多普勒的检测技巧;第四章详尽地叙述了阴囊、睾丸、附睾、精索及附件的正常B型超声表现,着重介绍阴囊内各血管的正常彩色及脉

冲多普勒特征性表现;第五至十一章较系统地介绍了阴囊及其内容物疾病的 B 型超声和彩色多普勒表现。除了常见的炎症、外伤、肿瘤、隐睾、鞘膜积液等疾病外,还着重描述阴囊急症(包括睾丸扭转、急性炎症、外伤等)的诊断和鉴别诊断、精索静脉曲张的诊断标准及其彩色多普勒超声分型。对于阴囊内少见疾病如睾丸微小结石症、睾丸静脉曲张等的超声表现也做了简要介绍。

Introduction of contents

Part One Endorectal sonographic diagnosis. The ultrasonic diagnostic technique and the clinical evaluation of the intrarectal ultrasound are described in the first part of this book. The main contents contain the anatomic structure of the anal canal and rectum, including the anatomic layers of the rectal wall, the perirectal muscles and spaces of the rectal and the blood circulation and lymph tissue of the anus and rectum, which is briefly narrated in the Chapter 1 and 2. The anatomic basis of the sonographic layers of the rectum is mainly introduced in these chapters. The methods of the detection of rectosonography are described in chapter 3. It includes the indications, contraindications and the matters which we must pay attention to the sonographies of the normal rectal wall and the perirectal tissular structure are also described in the chapter. The detailed diagnostic methods of rectosonography of the commonly encountered diseases are introduced in Chapter 4. The diagnosis, differential diagnosis of the rectal cancer as well as endorecta sonographic prospective staging and the sonography of the lymph node metastasis are mainly described in the chapter. The characteristics of the sonographies of the other tumors of the rectum, the rectal polypus, the chronic inflammation of the rectal mucosa, the rectovesical fistula and the cyst of the rectal wall are also related in it. Besides, the detailed introduction of the ultrasonic diagnostic methods of the perirectal diseases, such as the infective diseases of perirectal spaces, the tumors of sacrococcygeal region and the rectal aneurysm and so on is given in the chapter.

Another major contents of this part are Chapter 5 to 10. They give a detailed introduction about the endorectal sonographic diagnostic methods of the diseases of prostate, seminal vesical, vesical trigone and internal orifice of urethra and so on. The ultrasonic anatomy and the detective methods of the prostate and seminal vesical, especially the main technical points of the prostate rectosonographic examination and its normal sonography, including its color Doppler flow image, are described in detail firstly. Then the authors give wide coverage to the rectosonographic diagnostic methods of the hyperplasia of prostate, prostatic carcinoma and other diseases of prostate, stressing the value of the rectosonographic diagnosis and differential diagnosis of the diseases listed above and the color Doppler sonography of the hyperplasia of prostate and prostatic carcinoma. Besides, the prominent diagnostic value of the rectosonographic diagnostic methods of the seminal vesical diseases, tumors of vesical trigone and internal orifice of urethra is introduced in detail.

Part Two Transvaginal scanning. There are five chapters in Part 2. The anatomy of the female pelvic structure is briefly discribed in the first chapter. The indications, contraindications and the techniques of transvaginal scanning are related in the second chapter. Chapter 3 to Chapter 5 include the description of the normal transvaginal ultrasonic anatomy of the female

pelvic structure and the clinical applications of transvaginal sonography in the diagnoses of the diseases of the rectum, the urethra and the female reproduct tract and other female pelvic structures. The features of these chapters are the instroduction of the applications of transvaginal scanning in diagnosing the diseases of the female urethra, vagina and rectum, which usually neglected in ultrasond medical books or magazines. Transvaginal ultrasonograms of normal and abnormal conditions of the oviducts, which provide informations not available in the transabdominal scanning, are discussed in detail. The differential diagnoses of cervix diseases, endometrial diseases and intrauterine abnormalities as well as the early ovarine tumors by transvaginal sonography are all well delineated in chapter 5.

Part Three Scrotal sonography There are three contents in this part. They are scrotal ultrasonic anatomy, normal scrotal ultrasonogram and the ultrasonic diagnoses of scrotal diseases. Chapters 1 and 2 describe the anatomical morphyology of the scrotum, testis, epididymis and spermatic cord in detail and introduce the tiny structure (i. e. the appendix of orchiepididymis and labyrinthi ductile) ultrasonograms. The blood vessel anatomy in the scrotum is the basis of color Doppler ultrasound diagnosis. The anatomical structures of the vessels in the scrotum are described comprehensively and the path characteristics of the testicular artery, internal spermatic vein, pampiniform plexus and cremasteric vein are stressed on in these chapters so as the operators can master the technique of detecting these vessels sooner. Besides introducing the methods of the instrument adjustment and the routine procedure, Chapter 3 emphasizes the color Doppler detective technique of the blood vessels in the scrotum. Chapter 5 Chapter to 11 systematically introduce the B—mode ultrasonics and color Doppler expression of scrotal diseases. Besides the common diseases such as inflammation, trauma, tumor, cryptorchism and vaginal hydrocele, this part mainly describes the diagnosis and differential diagnosis of the acute scrotal diseases (containing testicular torsion, acute inflammation and trauma) and the color Doppler ultrasonic diagnosis criterion and typing of varicocele. It also briefly introduces the sonographic appearances of uncommon scrotal diseases, for example , testicular microlithiasis and testicular varicocele.

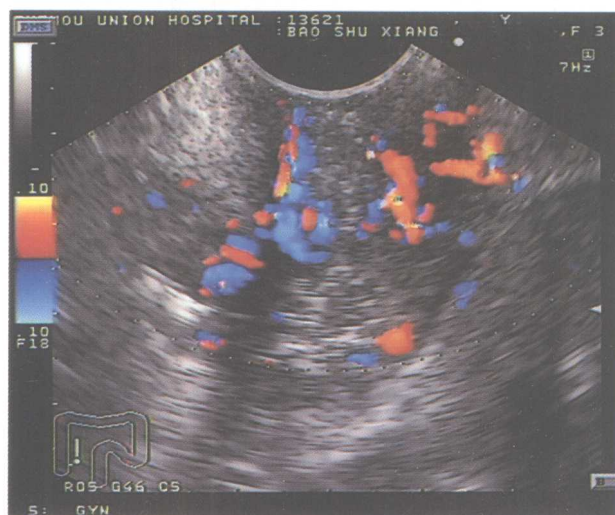


图1-69 直肠癌病变基底血流丰富



图1-70 直肠癌病变血流丰富呈“火海”状

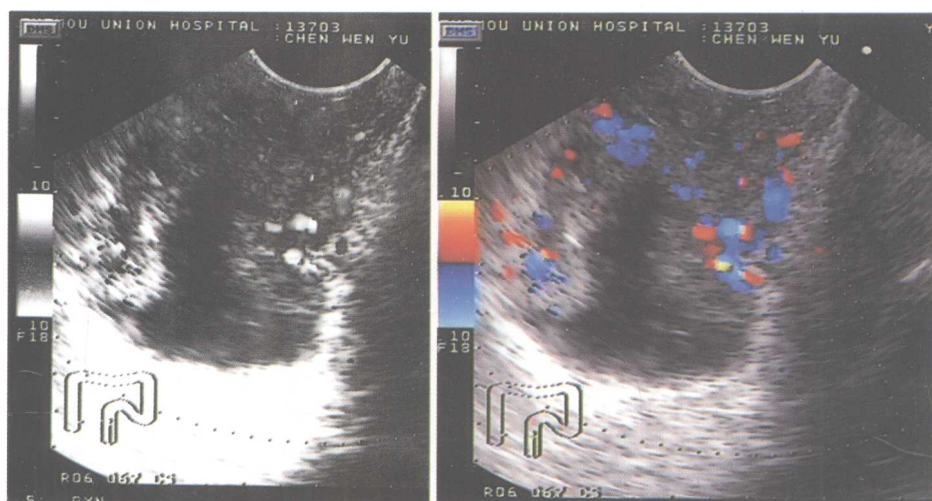


图1-71 直肠癌低回声病变（左图），显示丰富的血流（右图）。

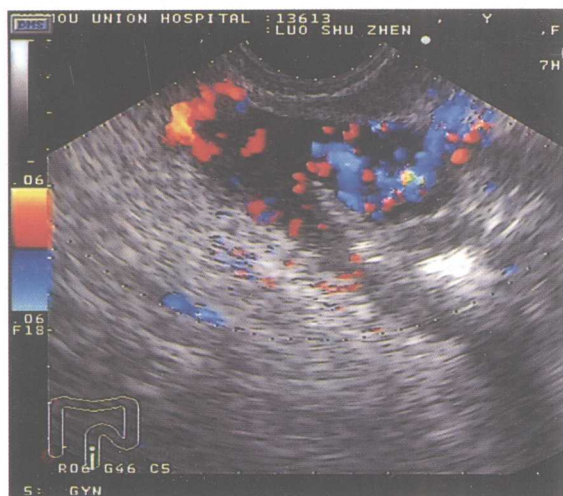


图1-72 直肠癌病变周围血流丰富

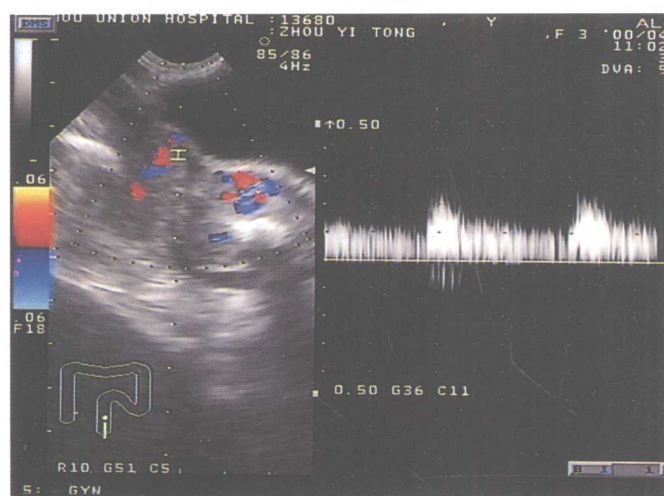


图1-73 直肠癌病变多普勒血流频谱显示低阻型动脉血流

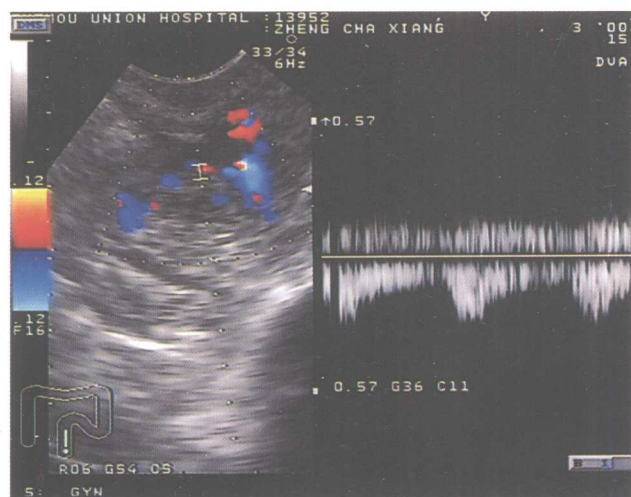


图1-74 直肠癌病变显示低阻型动脉血流



图1-116 经直肠彩色血流显像示前列腺血供丰富（端扫）

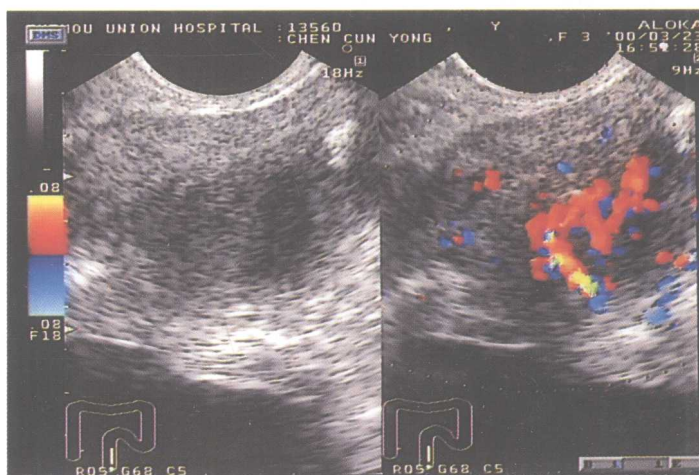


图117 经直肠彩色血流显像示前列腺内腺血供丰富（端扫）

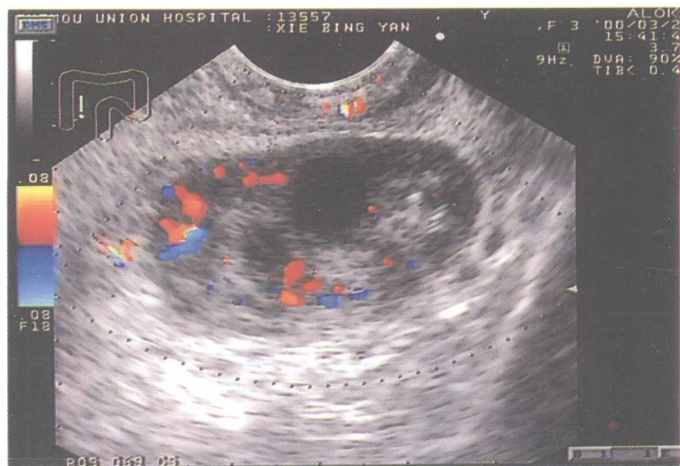


图1-143 彩色血流显像示前列腺癌局部血流增加

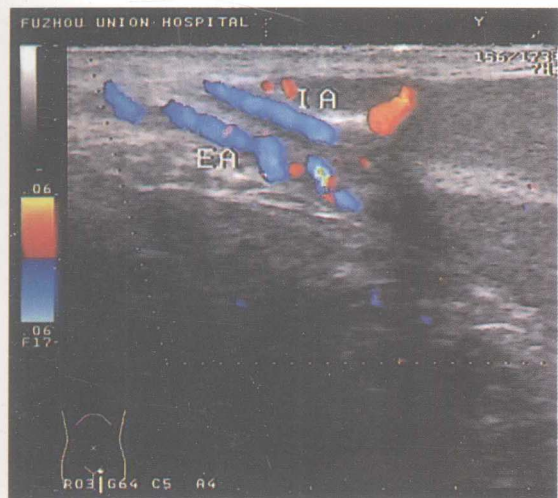


图3-14 精索内动脉

IA: 精索内动脉 EA: 精索外动脉

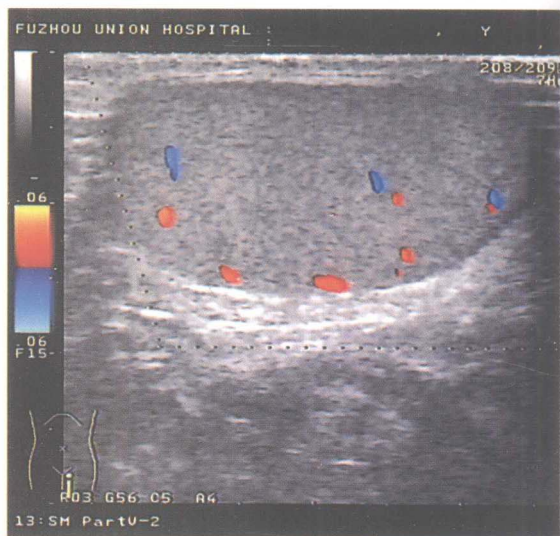


图3-15 睾丸内动脉 (I型)

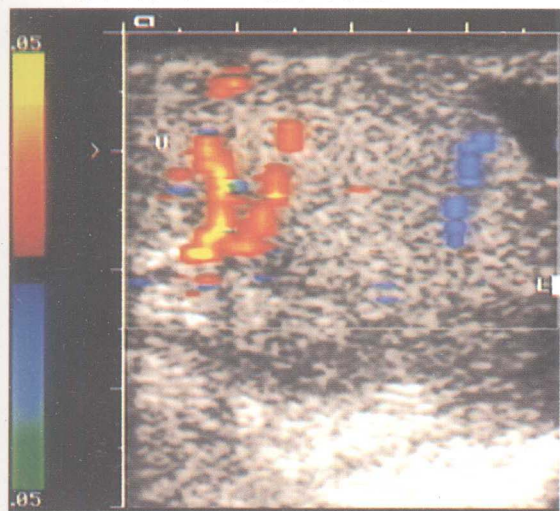


图3-16 睾丸内动脉 (II型)

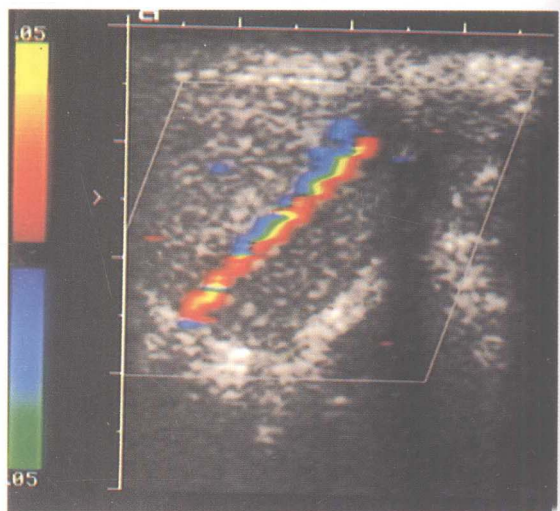


图3-17 睾丸内动脉 (III型)

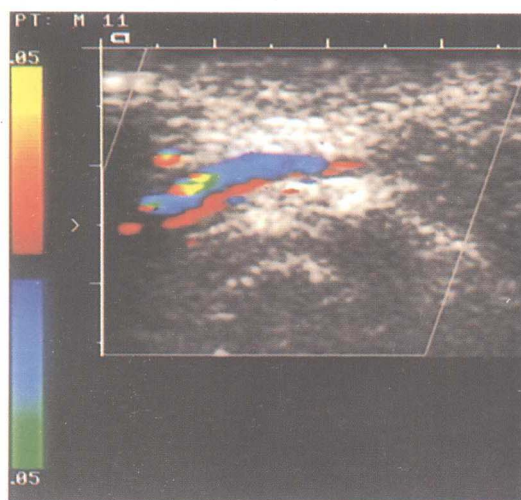


图3-19 正常精索内静脉

蓝色信号为精索内静脉, 红色信号为精索内动脉

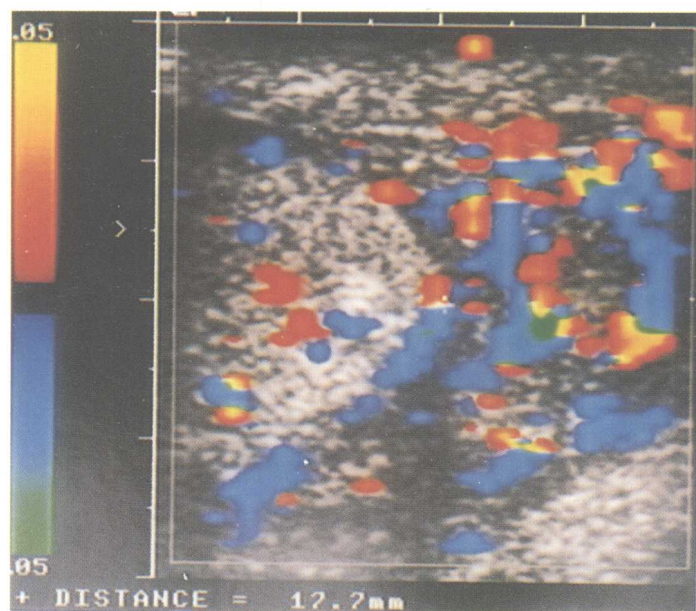


图3-22 急性附睾炎
附睾肿大呈低回声，血供明显增多。

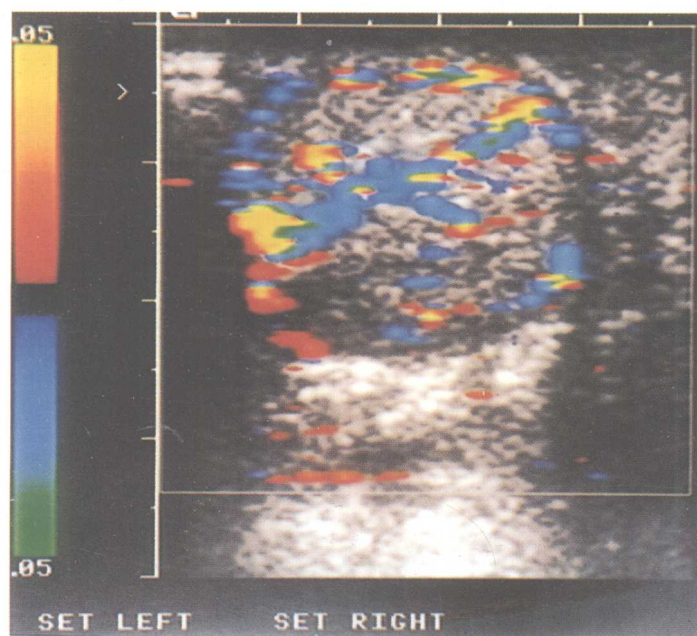


图3-24 急性睾丸炎
睾丸回不均匀，血流信号增多。

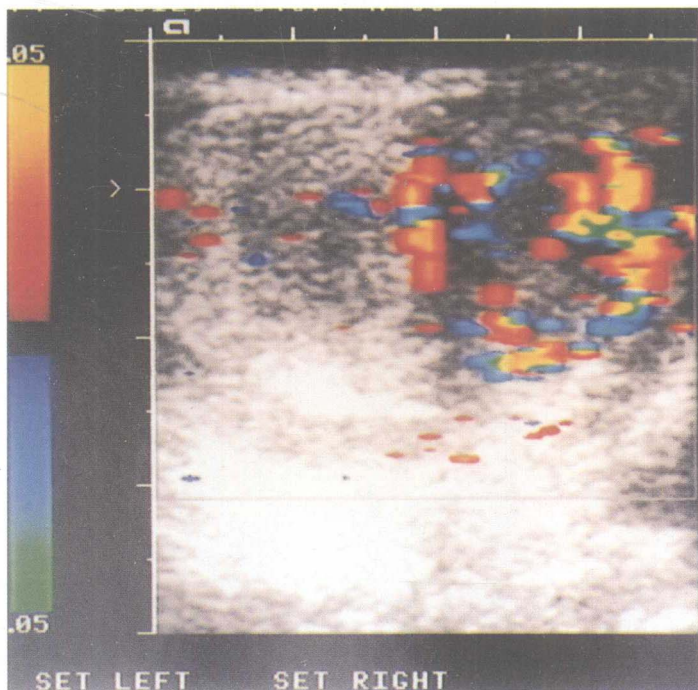


图3-31 睾丸精原细胞瘤
睾丸下极见一低回声团块，血供丰富。

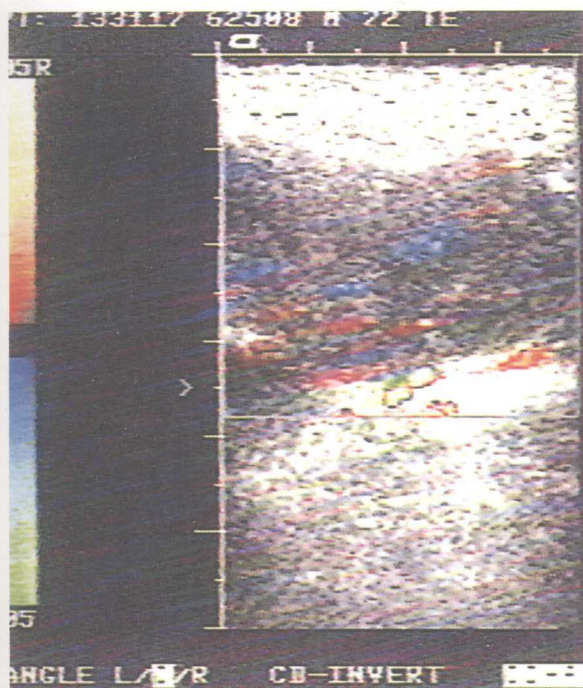


图3-42 精索精原细胞瘤

肿瘤呈低回声，条索状，内部可见较丰富的血流信号。

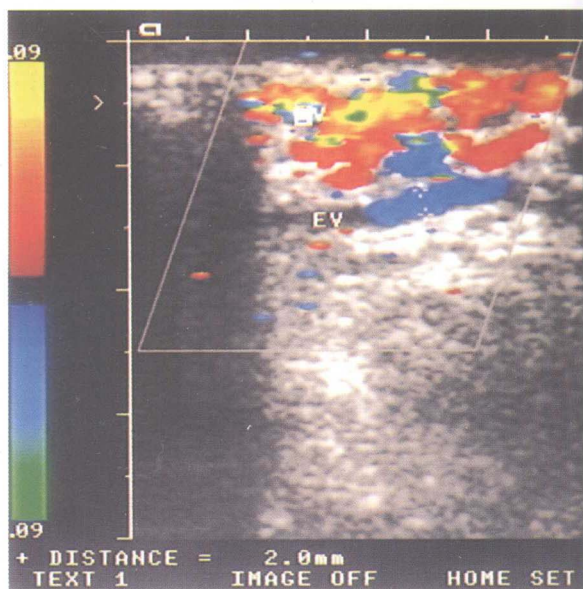


图3-47 精索静脉曲张

Valsalva试验时蔓状静脉丛内可见血流返流（红色），精索外静脉回流增多（蓝色）。

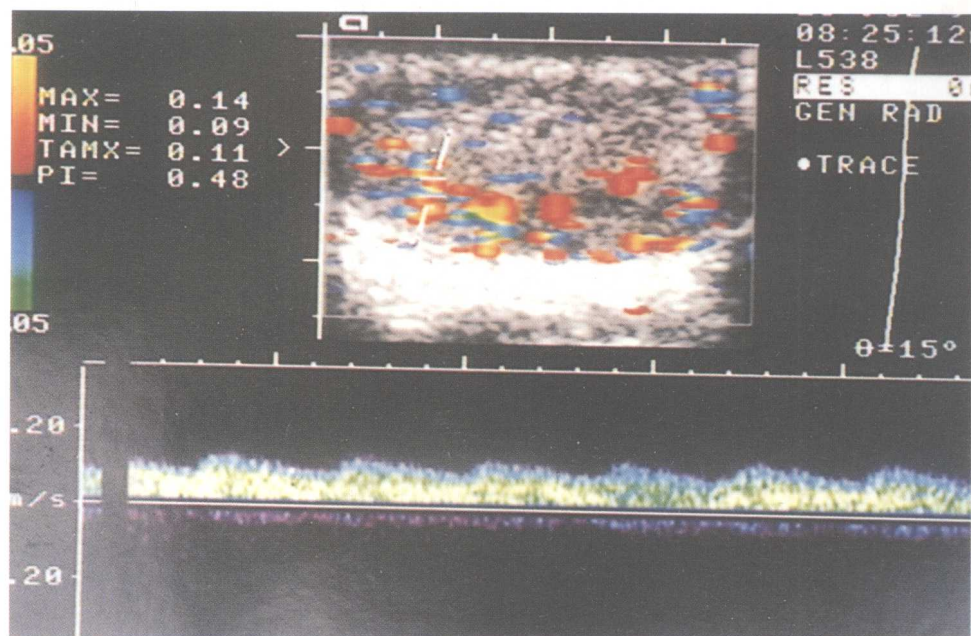


图3-49 睾丸扭转（多血供型）

睾丸内血流信号增多，动脉血流频谱为低阻型。

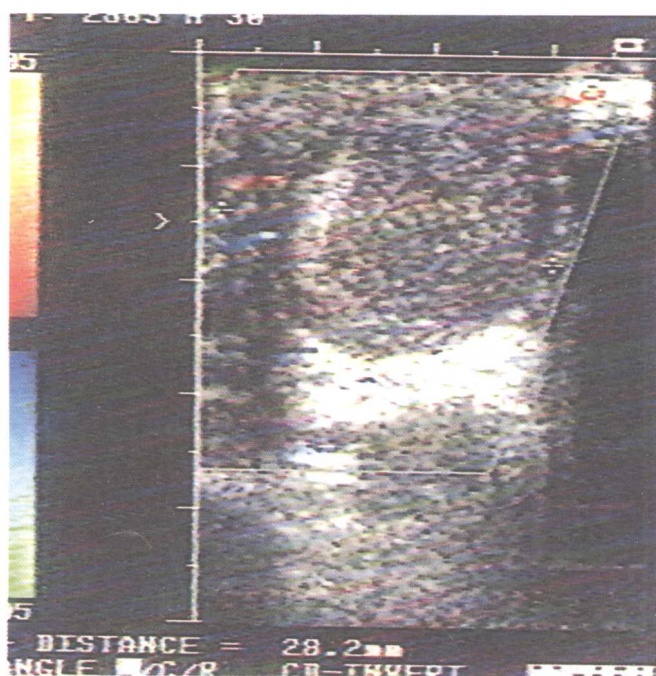


图3-50 睾丸扭转（缺血型）

睾丸（横切）呈不均匀低回声，无血信号显示。

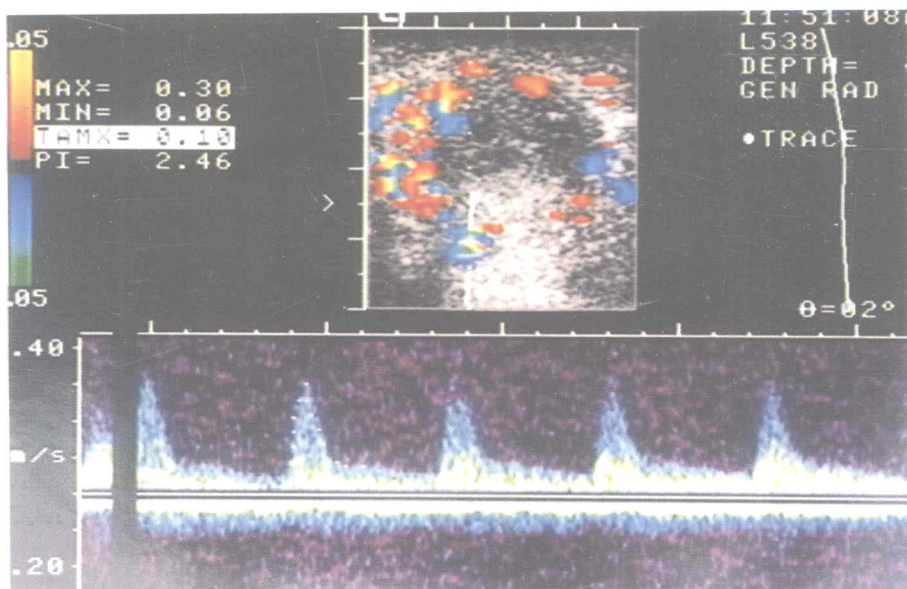


图3-52 睾丸扭转（血供环绕型）

睾丸呈不均低回声无血供，睾丸周边可见血流信号，动脉频谱为高速低阻型。

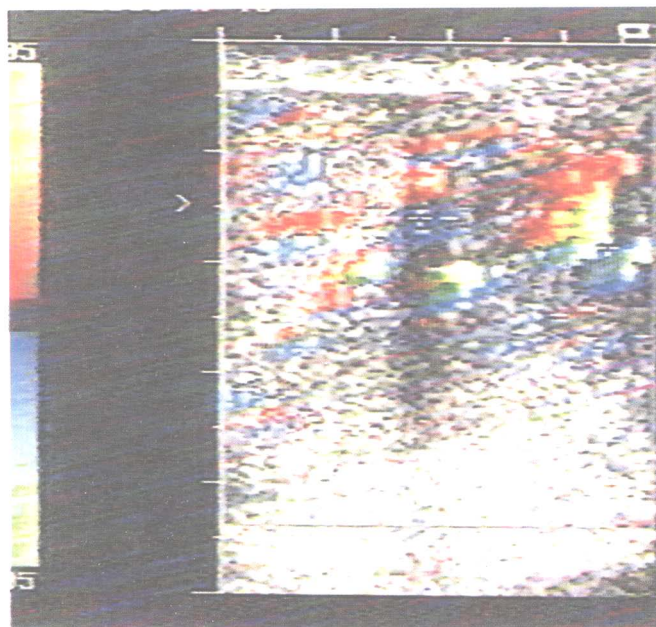


图3-69 斜疝

疝内容物为肠管，彩色多普勒可见肠壁血流信号。