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AgNOR counting study of 150 specimens of benign and malignant prostatic tissues

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Abstract One hundred and fifty specimens of benign and malignnat prostatic tissues were stained with argyrophil nucleolar organizer region (AgNOR) technique and the AgNOR granules were counted. It was found that the average number of AgNOR granules was gradually increased in the order of normal prostatic tissue, benign prostatic hyperplasia, prostatic atypical hyperplasia and prostatic carcinoma and the largest in prostatic carcinoma. The number of AgNOR granules was comparatively small in the well-differentiated large acinous adenocarcinoma. The AgNOR granules could be classified into 4 types according to their shape, size and number. They were the small round granules, large round granules, satellite-like round granules and irregular granules. It is believed that AgNOR staining is of diagnostic and differential diagnostic significance for most cases of prostatic carcinoma and benign prostatic lesions. In addition, there might be certain ralationship between the type of AgNOR granules and the pathological nature of the prostatic lesions.

Key words argyrophil nucleolar organizer region*; prostatic neoplasms; prostatic hypertrophy; stains and staining

胸部撞击伤发生机理的实验研究

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撞击伤是平时意外事故,特别是交通事故中的常见伤类。胸部撞击伤因其损伤的多发性、严重性、隐匿性和死亡率高等特点而成为该领域中主要研究课题之一。以往的大量工作都集中在临床流行病学调查和诊断治疗资料的总结上,而在损伤的病理形态学和功能变化特点以及结合生物力学研究手段阐明损伤发生机理、损伤分布规律及致伤参数与伤情量效关系等方面的工作甚少。国内尚未见这方面的报道。

本研究从撞击伤发生的实际过程出发,利用本室研制的BIM-Ⅰ型生物撞击机复制了狗和家兔的准静态、动态胸部侧向撞击伤的实验模型。采用自行研制的多路生物物理信号分析软件,结合二次锤胸壁不同部位加速度测定和胸腔内不同部位的压力测定等技术,对撞击过程中胸壁的荷载、变形、运动过程和胸腔内压力响应分布过程作了较系统的研究,并结合伤情评分,分析了致伤参数、胸壁动力学响应参数和胸内压力参数与伤情间的关系。观察了伤后血流动力学、ECG、呼吸动力学和肺顺应性的变化以及不同撞击方式、不同致伤参数、不同防护措施对胸部各部位伤情的影响。目的在于揭示胸部撞击伤的形态功能变化特点及发生机理,为其诊断、救治和防护提供依据。

本研究的主要结果及结论如下:

(1)胸部是一个粘弹性体,撞击物理参数(撞击速度、能量、撞击力)与胸部动力学响应参数(变形量、变形速度、粘性响应)间存在正相关指数或对数函数关系。

(2)在各种参数中,胸部的粘性标准与胸部伤情的相关性最好,二者间呈"S"形曲型关系。当变形量较小而撞击速度相对较高时,损伤类型由撞击伤逐渐演变成一种"冲击型"损伤("blast" type injury),损伤主要由高速冲击作用所引起,变形速度是影响伤情的主要因素;当撞击速度较低(变形速度也较低)而变形量相对较大时,损伤形式则演变成为"挤压型"损伤("crushing" type injury),损伤主要因挤压作用引起,变形量成为影响伤情的主要因素。

(3)活体测试条件下发现撞击过程中胸腔内的压力分布是不均匀的。肺组织各部位的伤情与压力有较好的对应关系。在应力波相互叠加的部位出现"应力集中",以撞击点处胸膜腔的压力最高,其次是左肺门和左肺。

(4)伤后出现左心功能减弱及相应的一系列血流动力学变化,其原因主要与心肌损伤所致的收缩能力减弱有关。伤后心图出现心率减慢、心动过缓、S-T段抬高或压低、多源性早搏(房性、室上性或室性)、心脏窦性停搏、室上性或室性节律等变化,心电图变化程度在总体趋势上与心脏损伤程度相关。

(5)伤后呼吸阻力显著升高、肺顺应性下降。呼吸频率加快、流率压力增大、消耗功率增加等变化可能是伤后机体氧耗量增大、气体交换能力减弱的一种代偿机制。

(6)肺损伤以出血、水肿为主,严重者出现肺深层出血和撕裂。肺水含量增加。心脏损伤以心内膜下出血最常见,其次是心肌出血、心室破裂。光镜下可见心肌纤维变性和断裂。电镜下可

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Expression of oncogenes Ha-ras and C-myc in wart and cancer of the genital organs

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Abstract The expression of the oncogenes Ha-ras and C-myc was investigated in 50 cases of wart of the genital organs, 10 cases of penile intraepithelial neoplasm in 3rd grade (PIN Ⅲ), 12 cases of cervical intraepithelial neoplasm in 3rd grade (CIN Ⅲ), 20 cases of penile cancer and 30 cases of cervival cancer with immunohistochemical method. It was found that more enhanced expression of Ha-ras and C-myc was observed in PIN Ⅲ, CIN Ⅲ and invasive cancer than in wart of the genital organs, and the expression intensity of anti-P_{21} antibodies of Ha-ras showed no overlapping between PIN Ⅲ-CIN Ⅲ and the wart of the genital organs. These findings suggest that Ha-ras and C-myc are involved in the development of the cancer of genital organs and the method to observe the expression of oncogenes can be used for the screening of CIN Ⅲ and PIN Ⅲ.

Key words warts; genital, female; genital diseases, male; carcinoma; oncogenes

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见心肌超微结构的损害。动物死亡原因与肺严重出血水肿、心脏损伤、心脏传导系统功能障碍所致的呼吸循环衰竭有关。

(7)撞击速度较低时，肺门区损伤程度重于肺泡区。撞击速度较高时，肺泡区损伤程度重于肺门区。左、右侧肺损伤伤情比值随撞击速度与压缩标准乘积的增大而逐渐减小。心肺损伤程度与撞击速度与压缩标准和乘积密切相关，肋骨损伤程度主要与压缩标准有关。

(8)与准静态撞击方式相比，动态撞击方式下动物各部位及整体伤情明显减轻，左右侧肺和左右侧肋骨损伤伤情比值增大。动物身体运动无挡板限制、应力波在由胸壁传出进入空气界质时反射小可能是引起上述损伤特征的原因。

(9)在撞击部位胸壁上安装弹性软垫可有效地延长撞击力作用时间、减小瞬时撞击力、存储部位撞击能量，显著地减轻了损伤程度；通过增大撞击面积来减轻伤情的效果则不够理想。

关键词 胸部损伤；生物力学；呼吸力学；创伤评分 ；肺顺应性

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