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·卫生监控·

解剖学工作者的职业病在工作环境中举证责任倒置的探讨*

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摘要:甲醛可引起机体一系列异常反应,针对解剖工作者所处的工作环境,可以通过改善工作环境、使用检测仪器和定期进行体检来预防甲醛对机体的危害,在防治职业病的发生的基础上,认识到职业病在工作环境中的举证责任倒置问题,可以对疾病进行早发现和早治疗,并对职业病的法律维权有所帮助。

关键词:职业病;环境;举证责任倒置

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Probe about Conversion for Burden of Proof in the Work Environment of Anatomy Workers*

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ABSTRACT: Formaldehyde can cause a series of abnormal reactions in the body. Improving the working environment, using testing equipment and taking periodic medical examinations can help prevent the harm of formaldehyde to the body. In addition to the prevention of occupational diseases, understanding of the reversion of burden of proof can help carry out early detection and early treatment of disease, and help safeguard legal rights of occupational diseases.

Key words: Occupational; Environment; The conversion for burden of proof

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前言

《中华人民共和国职业病防治法》第二条规定:“职业病是指在企业、事业单位和个体经济组织的劳动者在职业活动中,因接触粉尘、放射性物质和其他有毒、有害物质等因素而引起的疾病”[1]。解剖学教师无论是在从事科研或实验教学等都会常期接触福尔马林(Formalin)溶液,由此导致的甲醛(Formaldehyde)中毒应该属于职业病的范畴。世界卫生组织(World Health Organization,WHO)将甲醛列为潜在危险致癌物与重要的环境污染物[2],国际癌症研究机构(International Agency for Research on Cancer,IARC)已确定甲醛为Ⅰ类致癌物质[3]。职业病的举证责任应由用人单位进行举证,本文从劳动者的角度来探讨用人方在防治职业病的过程中环境因素对劳动者的损害,供今后解剖学工作者在确诊职业病后能够通过有效的途径进行法律维权。

1 职业风险

甲醛易经人体的呼吸道、消化道和皮肤吸收。甲醛的危害主要表现在对眼、呼吸道粘膜和皮肤的急性刺激和致敏作用[4],可导致鼻咽癌(nasopharyngeal carcinoma,NPC)[5]和胰腺癌(pancreatic cancer)[6]等疾病的发生。Coggon 等[7]和 Hauptmann 等[8]研究认为甲醛与呼吸系统肿瘤的发生有关,而 Mahboubi 等[9]通过对 2060 例肺癌(lung cancer)患者和 2046 例对照人群对比研究则认为甲醛暴露与肺癌的发生无显著关联。Zhang 等[10]的 Meta 分析表明,甲醛暴露会增加白血病(leukemia)发生的危险性,而甲醛的神经毒性作用已被 Songur 等证实[11]。在动物实验领域,戎芬等[12]研究显示甲醛可以引起小鼠外周血淋巴细胞 DNA 损伤,而且这种损伤随甲醛剂量的增加而递增。Majumder 等[13]研究显示甲醛对雄性大鼠的生殖系统具有抑制作用。

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2 工作环境

一般来说,接触甲醛的几率是室内比室外更高,这主要是由于室内环境中甲醛的来源更强和室内较低的空气交换率[14]。工作室内装修的木质材质、地板材质、保温材质和涂料等释放的有害气体也是导致室内空气污染的原因之一[15]。我国《工作场所有害因素职业接触限值》中规定:“工作场所内甲醛的最高容许浓度(Maximum Allowable Concentration, MAC)为0.5mg/m^3”[16],彭劲松等[17]的研究显示解剖实验室内的甲醛平均浓度是我国职业卫生标准的2.783倍。郑万兵等[18]指出使用有效的排风系统,可降低甲醛对教师和学生健康的危害。同时,利用课余时间多在室外呼吸新鲜空气对解剖教师的身心健康也大有裨益[19]。

3 应对措施

3.1 改善工作环境

工作环境的潜在危害是影响解剖学工作者身体健康的主要因素,采取“预防为主,综合防制”是有效减少职业危害的重要举措[20]。勤开门窗,增强通风,可以减少甲醛的聚集。安装排风系统,有利于甲醛气体的排出。为了净化实验室内空气,可利用颗粒活性炭、活性炭纤维、竹炭、活性氧化铝等吸附剂置于实验室内,对甲醛气体进行吸附,此方法经济且无毒副作用。还可在实验室内栽种如芦荟、吊兰等绿色植物,对甲醛不仅有较好的清除效果,还能调节室内的湿度,可净化空气与美化环境。郑和平等[21]通过制作标本防护罩起到了减少甲醛释放的作用。

3.2 使用检测仪器

主要监测甲醛的仪器包括光谱学仪器、电化学仪器和色谱仪器[22]。陈焕文等[23]研制手持式测试仪,可以保证测量结果与国家标准方法测量结果的一致,具有一定的推广性。张彪等[24]的研究表明,便携式甲醛检测仪的监测结果与传统的乙酰丙酮分光光度法(Acetylacetone spectrophotometric method)的监测结果还存在一定的差距,但基本上能满足环境监测的要求。Feng等[25]使用了一种简单、高度敏感的气态甲醛比色检测法,值得国内相关人员推广使用。

3.3 定期进行体检

国家把坚持职业性体检当作是一项重要的预防疾病的措施而加以规定,颁布的《中华人民共和国劳动法》第五十四条规定:“对从事有职业危害作业的劳动者应当定期进行健康检查”[26]。解剖学工作者应定期去相关医院在完成常规体检的基础上,进行必要地职业风险的体检,特别要注意生殖系统方面的体检,Wang等[27]对302名职业暴露于甲醛的男性研究显示,父代的甲醛职业暴露将使精子与卵子的受孕时间延长和自然流产的危险升高,对生殖有不利的影响。

总之,为了降低解剖学工作者患职业病的风险,不仅需要学校加大经济力度支持,为解剖实验室安装合理的通风设备,改善教学和工作环境,减少甲醛的污染和危害。同时,解剖学工作者也需要知道和了解甲醛对生物体和环境的影响,并采取预防措施,以避免不必要的暴露。有目的性的定期体检也可以对疾病进行早发现和早治疗,通过了解举证责任倒置,更好地在职业病的法律维权上有所帮助。

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