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· 病例报道 ·

下颌关节僵硬患者行经鼻选择性右中间干支气管封堵一例

虞大为 陈焜

患者,男,69岁,60 kg,入院1周前在外院行CT检查时发现右下肺肿物,拟在全身麻醉下行经胸腔镜右下肺癌根治术。患者既往高血压病史十余年,口服厄贝沙坦,近期控制在130/85 mmHg左右。患者于2012年6月行左上颌鳞癌根治术,术后经多次放疗,最终导致下颌关节钙化僵硬,无法张口。术前检查血常规、生化检查、心电图正常。血气分析示PaO₂ 82 mmHg, PaCO₂ 41 mmHg, SaO₂ 97.4%。此外,患者因无法开口导致讲话含糊不清,直接对话交流有一定障碍,术前沟通需借助纸笔等。

入室后患者神志清楚,行常规生命体征监护, NIBP

138/81 mmHg, HR 72 次/分, SpO₂ 95%, BIS 96。查体示张口重度受限,上下切牙切缘间距最大不到5 mm,同时有部分上下牙交错,左侧上颌牙缺失,呈1~2 cm空隙,双腔气管插管无法进入,拟按术前预案行单腔气管插管+支气管封堵器,隔离右肺。另考虑到快诱导可能引起患者舌根后坠,但其口腔无法打开,有造成“无法插管、无法氧合”严重后果的可能,因此计划行保持自主呼吸的镇静下慢诱导麻醉。首先开放外周静脉通道,行右美托咪定60 μg 泵注,10 min 内泵注完毕;用带柔性喷头的喷药器于患者舌根部喷洒丁卡因,同时经鼻腔行咪麻滴鼻液浸润,面罩充分吸氧3 min(流量8 L/min,浓度100%);静脉缓慢静注咪达唑仑2 mg,羟考酮3 mg,此时 BIS 约70, SpO₂ 96%,环甲膜穿刺注入2%利多卡因3 ml,患者出现轻度呛咳。此后,取表面涂有利多卡因胶浆的ID7.0加强型气管导管,垂直面部缓慢插入鼻腔,直达咽

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部;纤支镜以石蜡油润滑后置入管腔,引导气管导管继续进入,直至见到会厌和声门后进入主支气管,调整插管深度后固定气管插管。全程患者有自主呼吸,深度镇静复合适度镇痛,同时可唤醒,安全性极高;因操作时间较一般插管操作长,且镇静程度深导致呼吸浅慢,SpO₂略有下降,但始终未低于 92%。插管成功后接麻醉机,检查肺部通气良好,给予肌松药后行机械通气,SpO₂回升至 100%。继而拟行支气管封堵,型号 7Fr,但因该患者支气管直径明显增粗,导致气囊充气至最大后仍封堵不完全,气囊直径(Φ_a)<右主支气管内径(Φ_b)(图 1),术侧肺塌陷不佳,无法继续手术。因本单位尚无 9Fr 的封堵器,同时患者病灶在右下肺,临时决定在纤支镜引导下继续将封堵气囊下移,行选择性右中间干支气管封堵,结果显示右肺中叶及下叶萎陷良好,右肺上叶正常通气(图 2),手术顺利完成。术中麻醉满意,手术顺利,时程约 70 min,出血量约 100 ml,未输血,术后患者清醒,拔除气管插管,安返病房。患者在拔管前 BP 131/82 mmHg,HR 78 次/分,SpO₂ 100%,拔管后 2 min BP 145/87 mmHg,HR 84 次/分,SpO₂ 98%。次日随访患者生命体征平稳,意识同术前,无任何麻醉及手术不良记忆,无声嘶、咽痛及咽部出血。

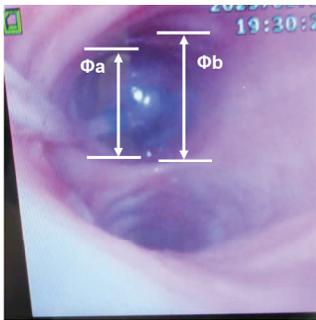
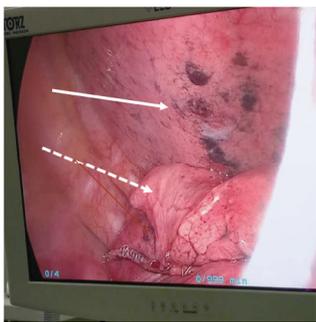


图 1 支气管封堵器尝试封堵右主支气管图



注:实线箭头,右肺上叶正常通气;虚线箭头,右肺中叶及下叶萎陷良好

图 2 右中间干支气管封堵后胸腔镜下图

讨论 随着胸科微创技术及 ERAS 流程的飞速发展,很多肺部手术都选择在肺隔离后单肺通气的条件下进行,可为手术提供良好的视野及操作空间^[1]。虽然双腔气管导管和支气管封堵器都可提供满意的肺隔离,但临床上常首选双腔管,因其操作简单,可为术侧提供选择性持续气道正压,同时

管腔直径较大,方便吸痰及纤支镜操作^[2]。但不可否认的是,在某些特定情况尤其是因手术或其他原因导致上呼吸道解剖结构改变的患者,支气管封堵器则优势凸显^[3]。

有研究报道,行单肺通气时支气管封堵器较双腔管插管时间明显缩短^[4]。另外,术后声嘶与咽痛的发生率及严重程度与气管导管的直径大小也存在相关性。如患者高龄或术前肺功能较差,不能耐受单肺通气时,支气管封堵器还可行选择性肺叶封堵,提高围术期患者安全^[5]。具体来说,术前肺功能不全、临界性肺功能储备、支气管胸膜瘘等患者更需运用选择性肺叶封堵技术^[6]。本例患者因封堵器型号不匹配,临时采取了右中间干支气管封堵的策略满足了微创手术需求,在未来的同类手术肺隔离预案中,也不失为一种较好的选择。此外,在某些如肺毛霉菌等特殊疾病的手术中,双腔支气管导管还能与支气管封堵器联合应用,可有效避免手术引起的患侧坏死感染组织或体液渗漏至健侧^[7]。本例患者由于上颌癌术后导致上呼吸道解剖结构改变,要达到满意的肺隔离条件,支气管封堵器是唯一选择,如失败则必须改为开胸手术,影响患者的快速康复。因术中改行了下一级支气管选择性封堵,还需注意避免影响术中肺切割缝合器操作。此外,本病例教训是,由于术前准备的支气管封堵器型号不全,导致无法顺利行主支气管封堵,若遇到类似的右上肺肿瘤患者,则很难完成术侧肺叶隔离,因此,术前充分的预案讨论、后备方案选择及相关器材准备在本类患者中尤为重要。

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