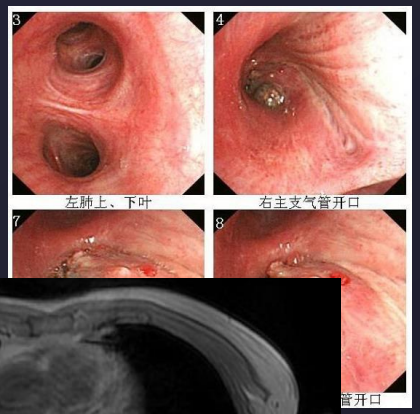
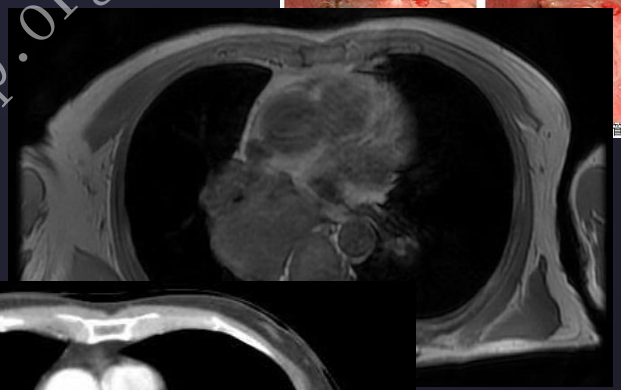
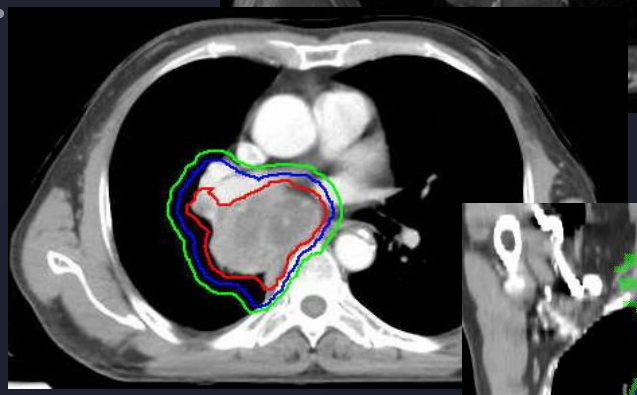
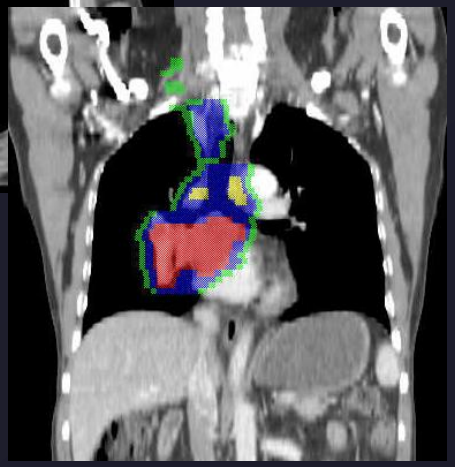
肺癌病例临床资料介绍与靶区定义

2010年京津冀鲁放射物理会议









中国医学科学院肿瘤医院 放疗科

陈波 王绿化

CIH CAMS (NCC)
Aug 7th, 2010

主要内容

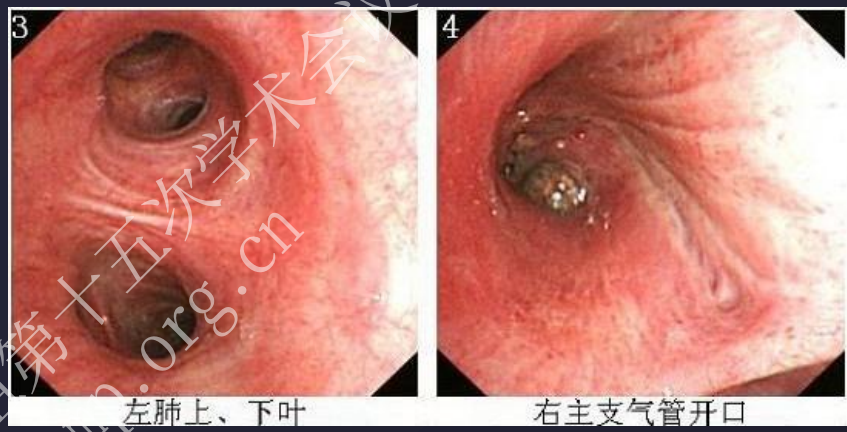
- 患者基本病史
- 疗前诊断与分期检查
- 靶区定义
- 处方剂量与治疗方案

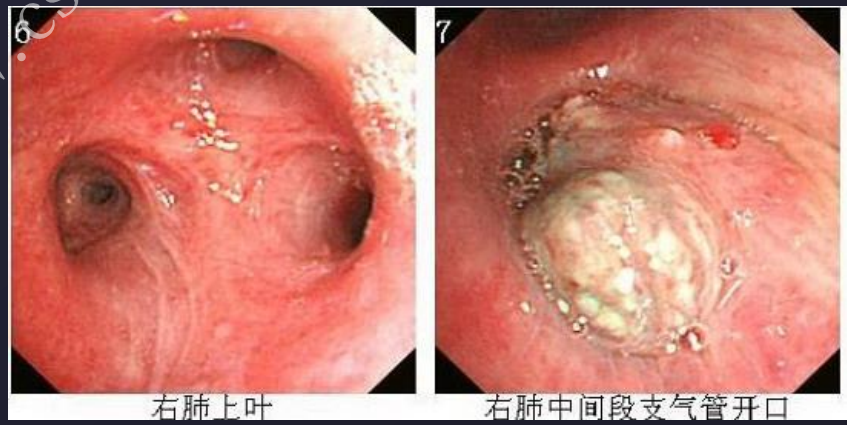
患者基本病史

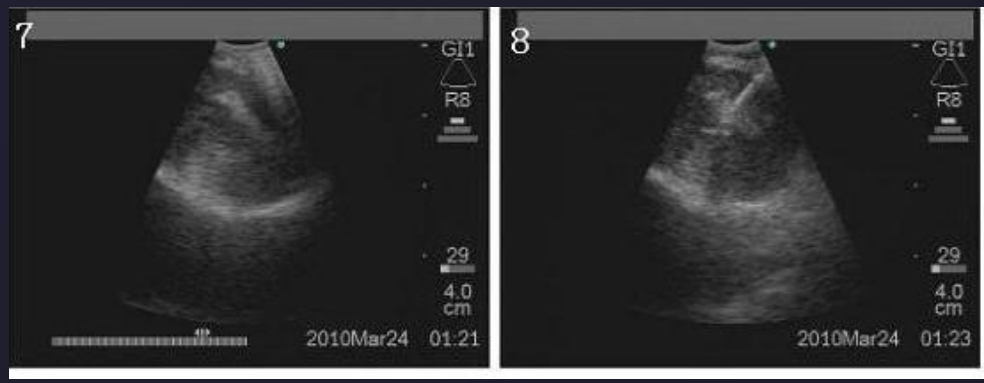
- 男性，68岁
- 身高：167cm，体重：65kg，体表面积：1.72m²
- 主诉：活动后气短1个月余
- 现病史：2010年3月出现活动后气短，4月外院CT示右下肺占位，纵隔淋巴结肿大，2010年4月17日我院FOB示：右主支管内侧壁及后壁不规则隆起性肿物，活检病理未见恶性证据。2010年4月27日我院超声内镜示4R、7区占位，取活检病理示分化较差的非小细胞癌，考虑腺癌；细胞学示发现癌细胞，考虑腺癌细胞。
- 既往使：前列腺增生2年，颈部多发脂肪瘤15年（1996、1999分别行颈部脂肪瘤切除术。吸烟史30年。
- 入院情况：入院时患者诉偶有咳嗽，咳痰，痰呈灰白色，偶有脓性黄痰，右腰背部偶有隐痛，睡眠差，二便饮食可，PE:KPS80分，BP 130/80mmHg，双颈及锁骨上，枕后，颈后多发脂肪瘤 ，最大直径约8cm。右锁骨上2*1.5*1.5cm质硬、半固定肿大淋巴结。双肺呼吸音清，未闻及干湿罗音。

疗前诊断与分期检查

- **2010-4-17我院FOB及病理**
  - 右主支管内侧壁及后壁不规则隆起性肿物（活检），肿物表面糜烂、坏死且肿物几近堵塞中间段支气管开口。病理示：支气管粘膜组织慢性炎伴炎性肉芽组织形成，未见明确恶性证据。
- **2010-4-27我院超声内镜**
  - 4R及隆突下7区低回声占位，分别于4R及纵隔7区行超声内镜引导下支气管针吸活检。病理示：分化较差的非小细胞癌，考虑腺癌；细胞学示：发现癌细胞，考虑腺癌细胞。
- **2010-5-18右锁骨上淋巴结穿刺**
  - 细胞学示发现癌细胞



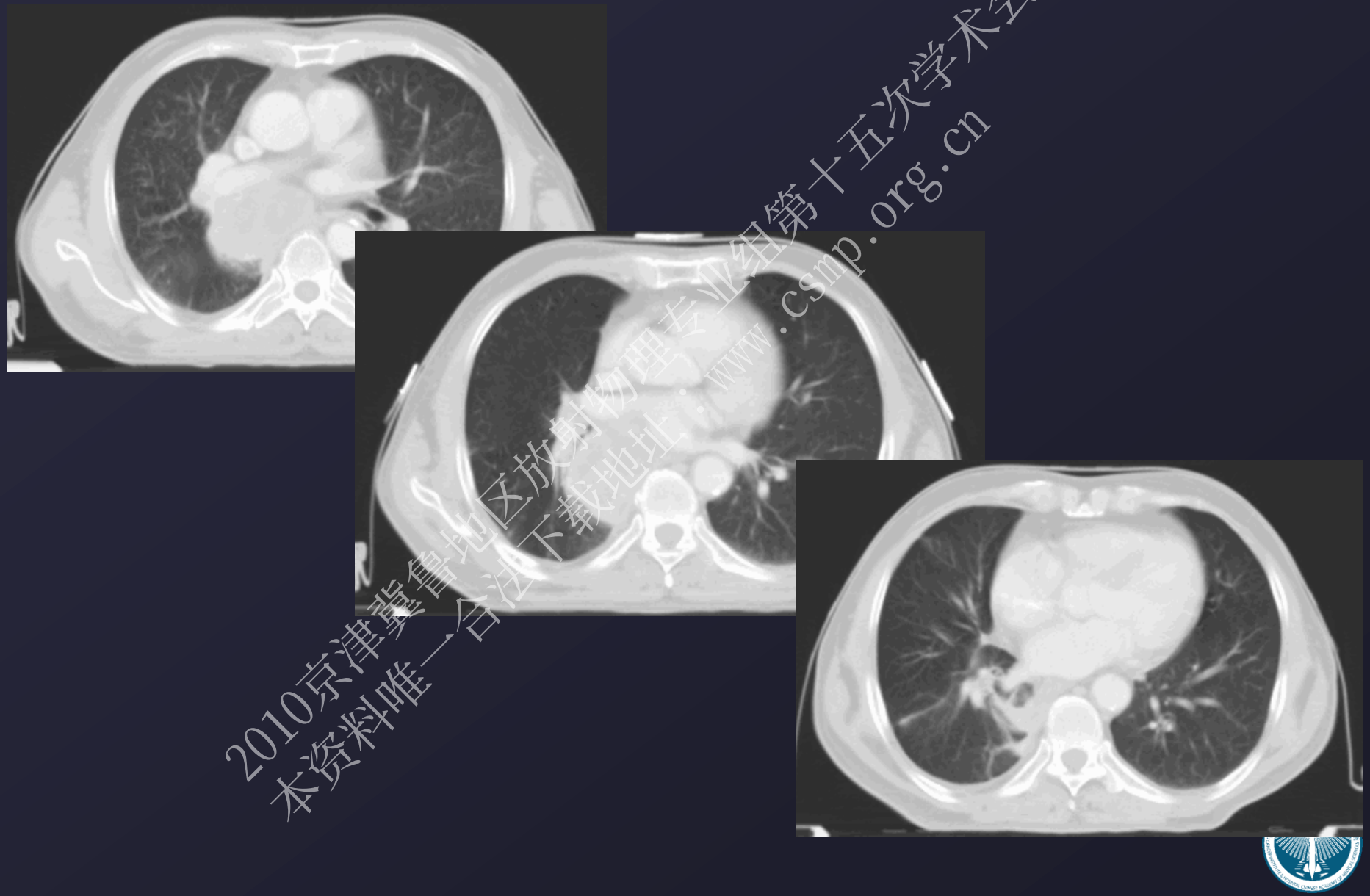




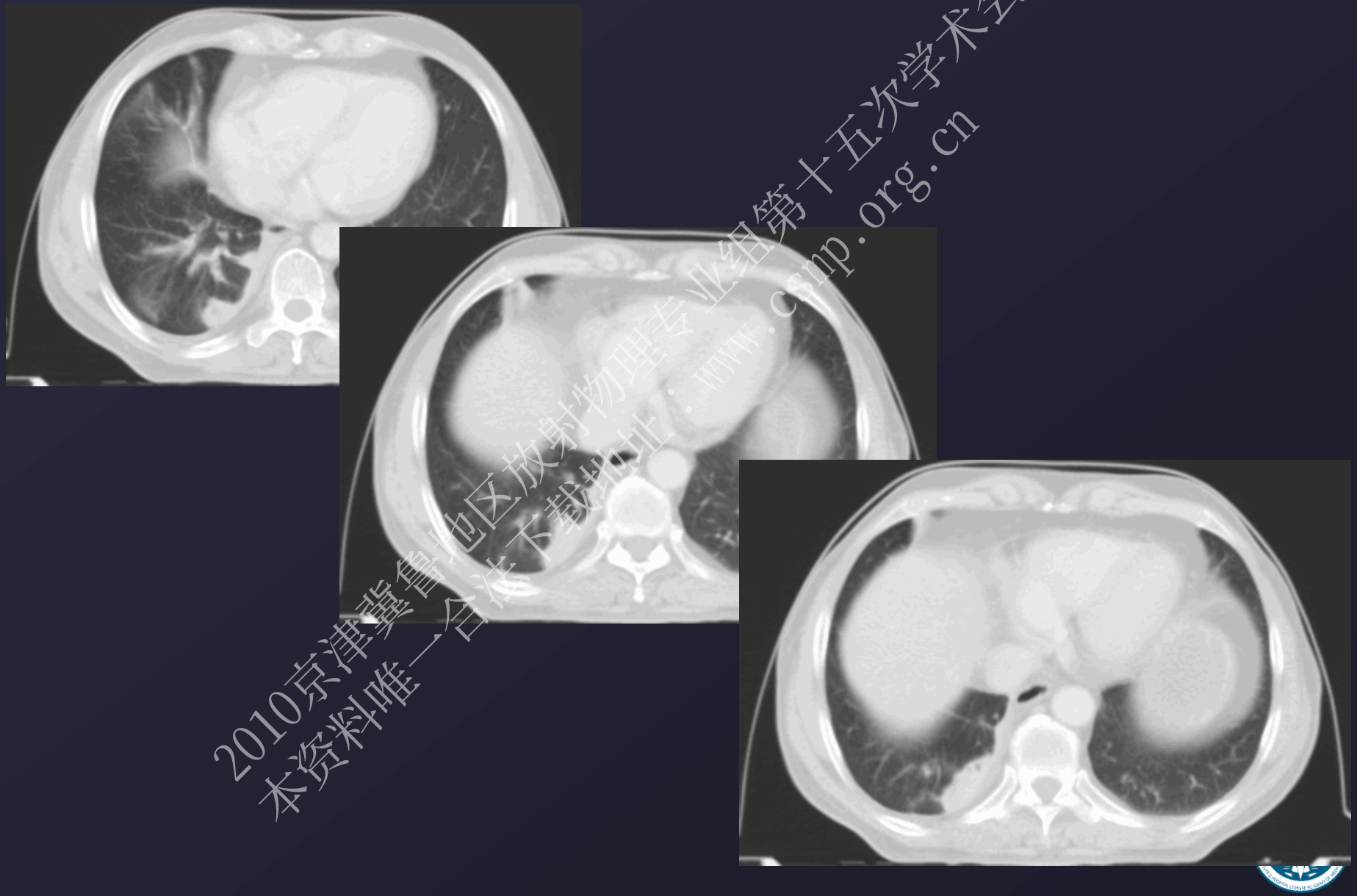
疗前诊断与分期检查

- **2010-5-14颈胸腹CT**
  - 右中间段支气管管腔呈裂隙显著狭窄，近乎闭塞，后壁不清，其后方多结节融合状肿块伴大片坏死，最大短径约**4.5cm**。
  - 右中下叶支气管肺阻塞性改变。
  - 右肺门、双纵隔、右锁骨上区多发淋巴结转移，大者短径约**1.9cm**

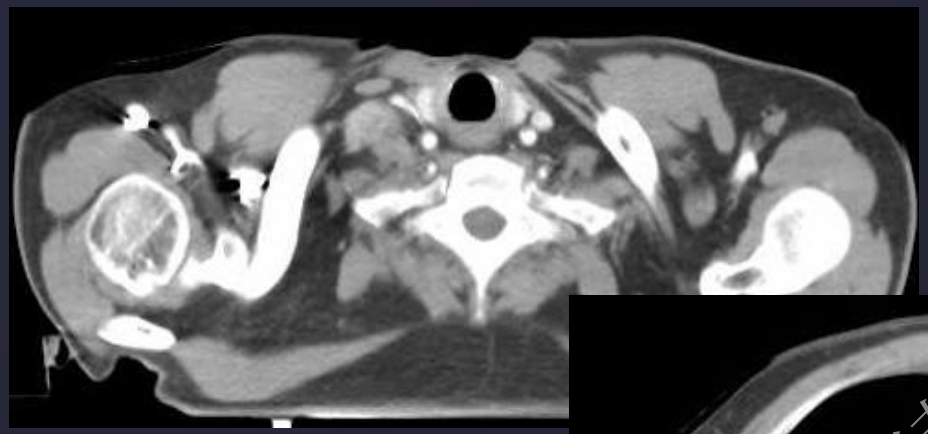
2010-5-14颈胸腹CT: 右肺下叶原发灶(1)

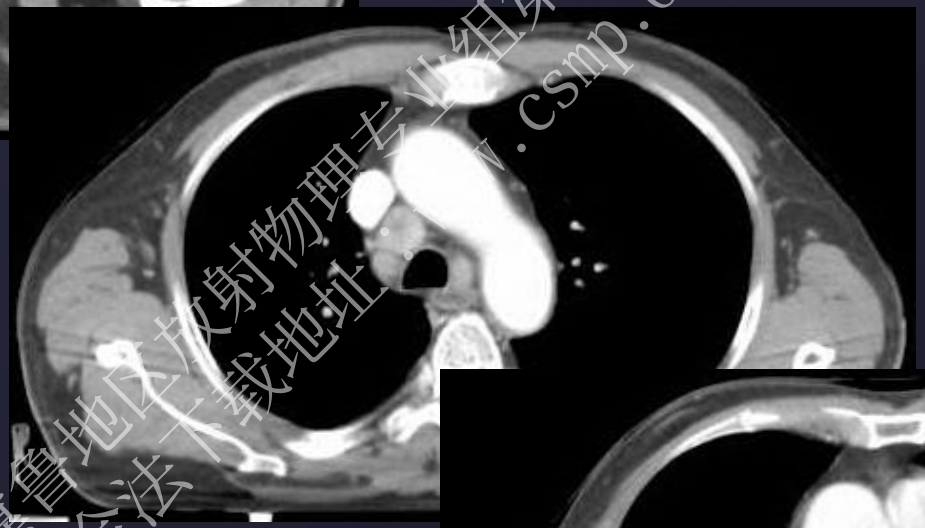


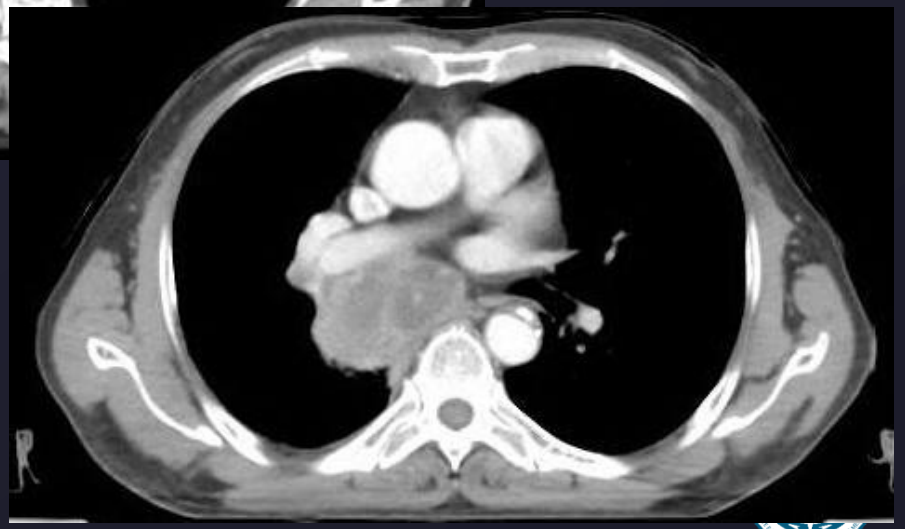
2010-5-14颈胸腹CT: 右肺下叶原发灶(2)



2010-5-14颈胸腹CT: 转移淋巴结



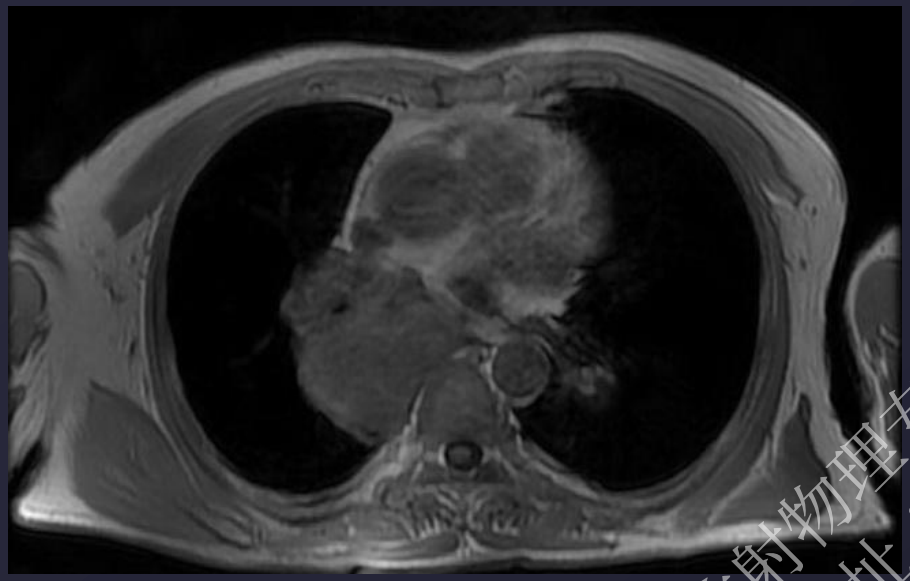


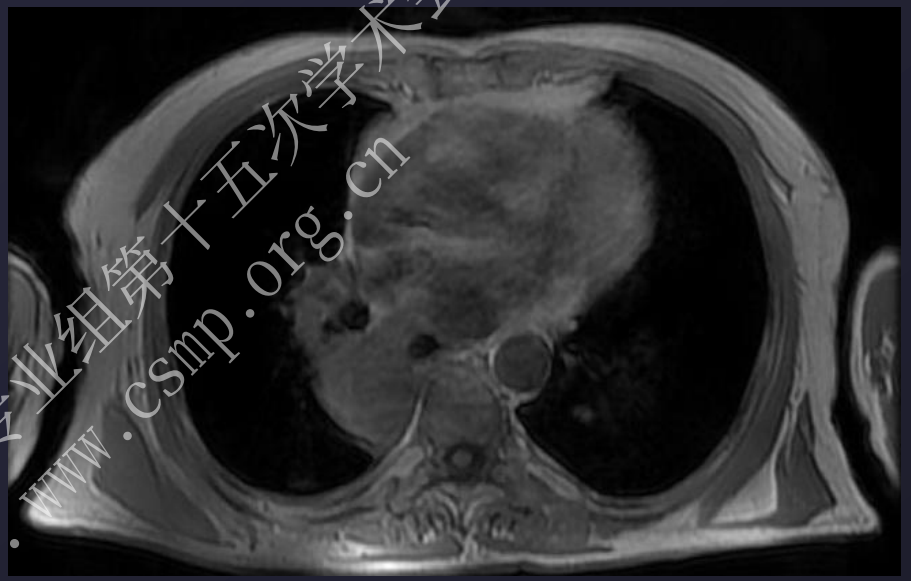


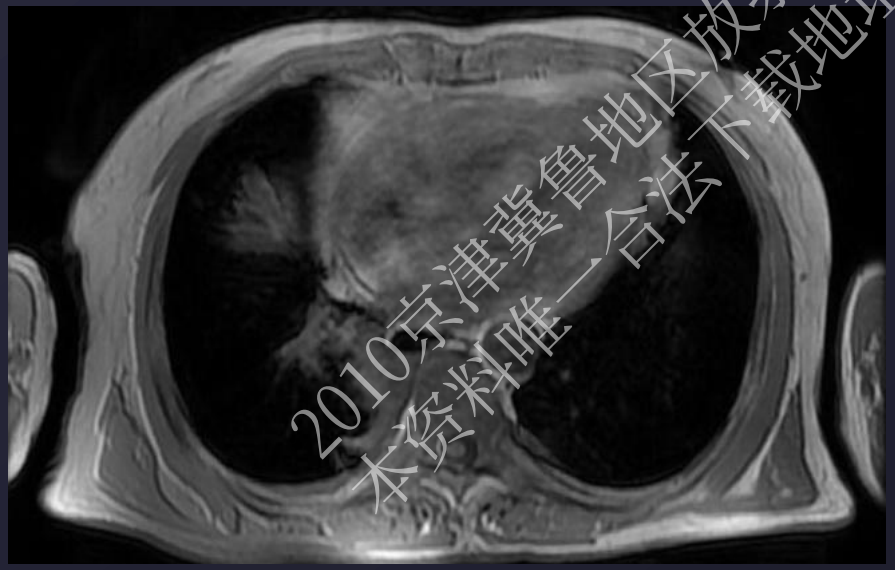
疗前诊断与分期检查

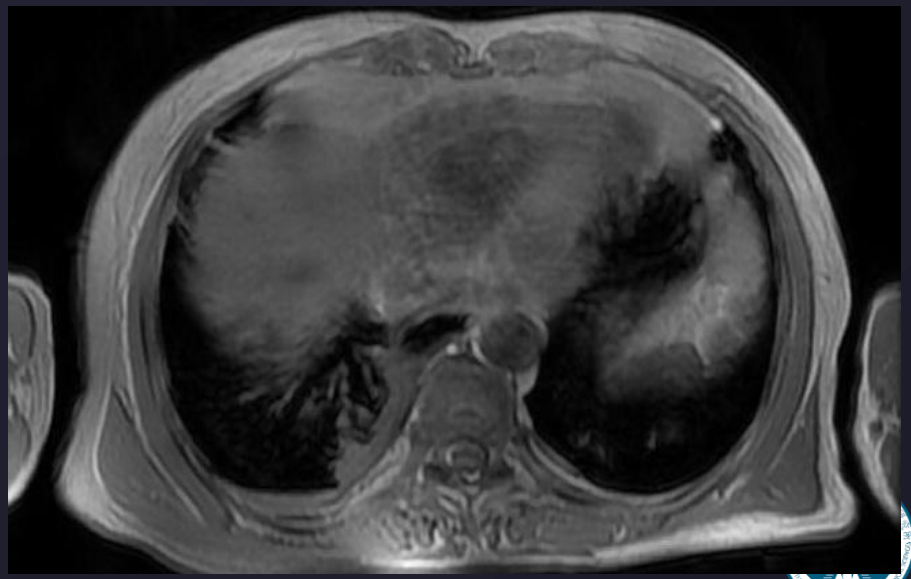
- **2010-5-21胸部MRI-------**判断右肺下叶后基底段病变是阻塞性改变还是肿瘤
  - 右下肺野见不规则片状影，**T1WI**呈等信号，**T2WI**、**T2WI/FS**及**DWI**呈稍高信号，增强呈中等强化
    - 右下肺野不规则片状影，为阻塞性改变
  - 右下肺叶背段见一团块状影，大小约**6.4X7.1X6.7cm**，呈多发结节聚集融合，**T1WI**呈欠均匀的等信号，**T2WI**及**T2WI/FS**呈不均匀高信号，**DWI**弥散受限，肿物侵及隆突下，气管分叉角度扩大。动态增强扫描呈逐渐强化，结节边缘强化较明显，其中隆突下一结节于静脉期后造影剂廓清明显，内见条状持续强化影。

2010-5-21胸部MRI T1WI









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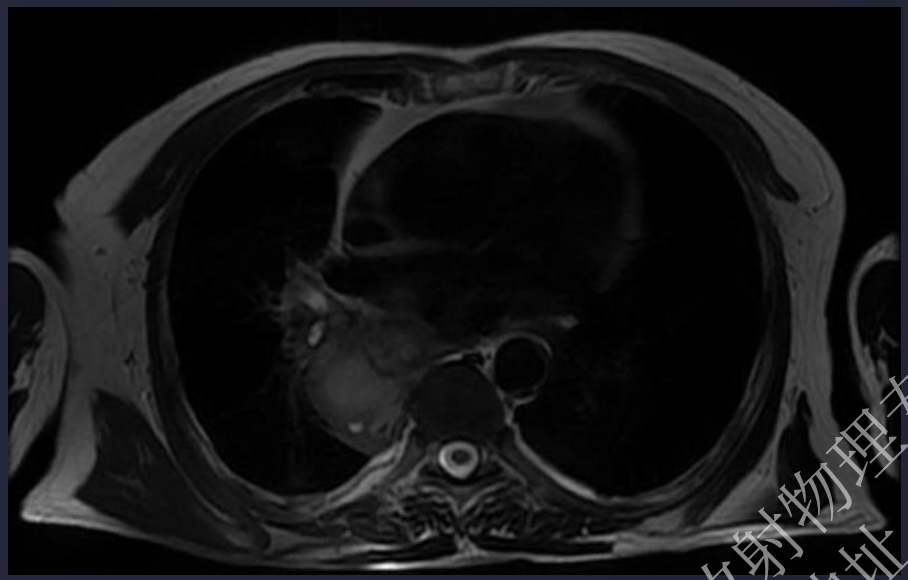

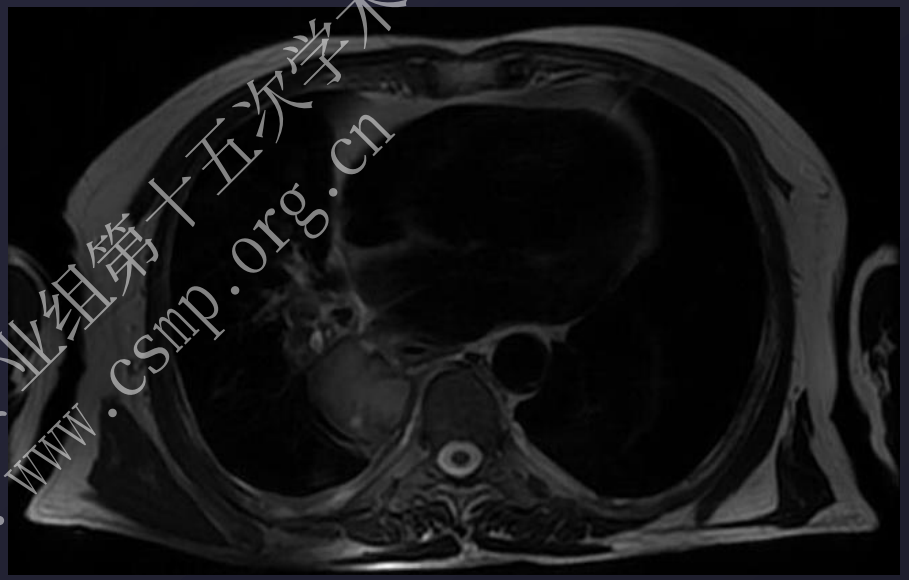

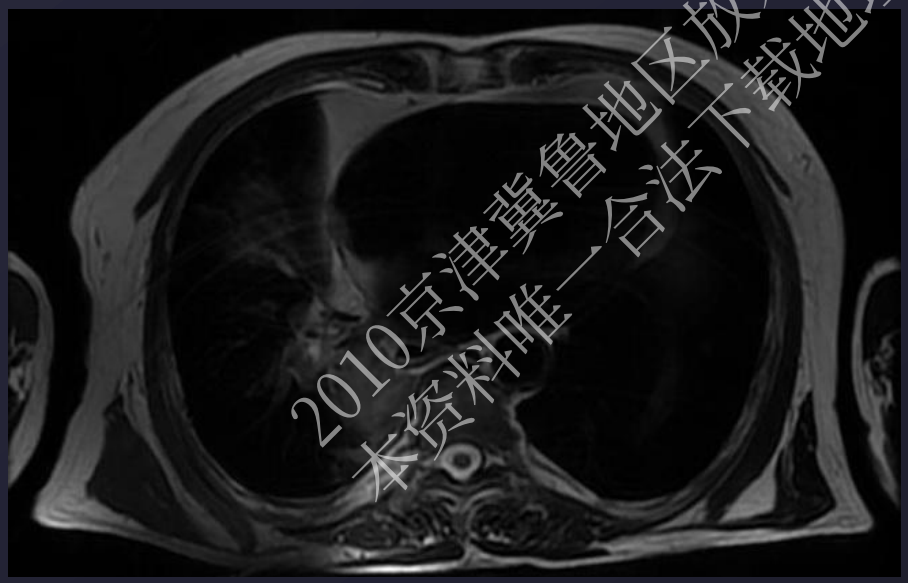

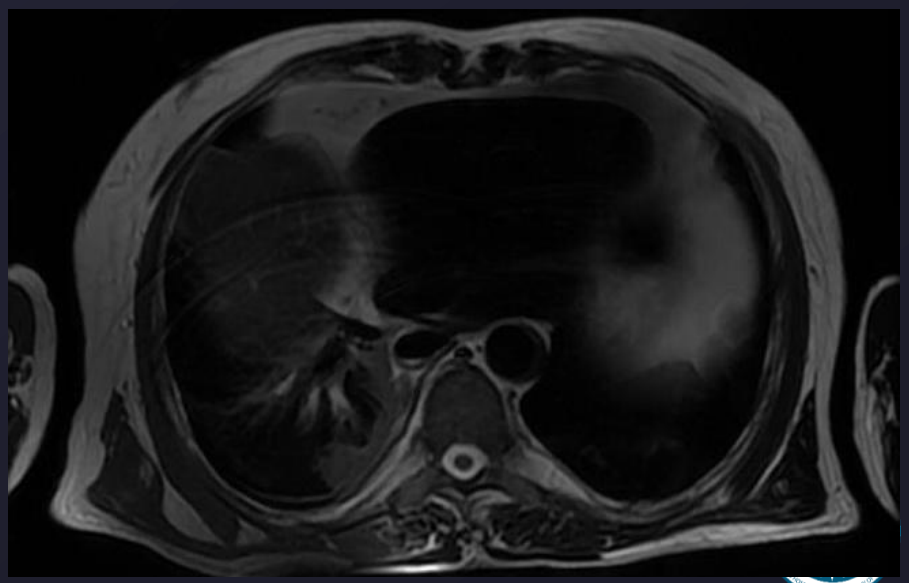

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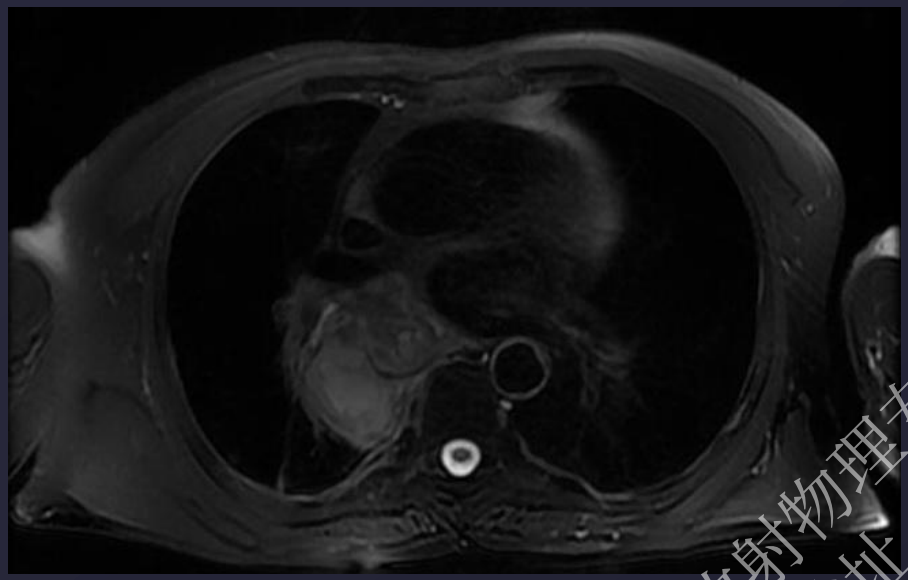
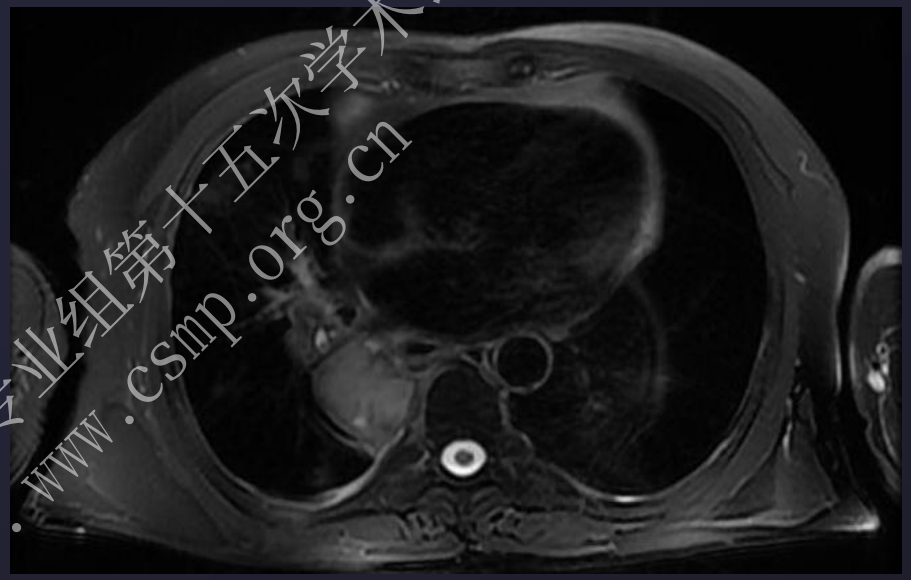
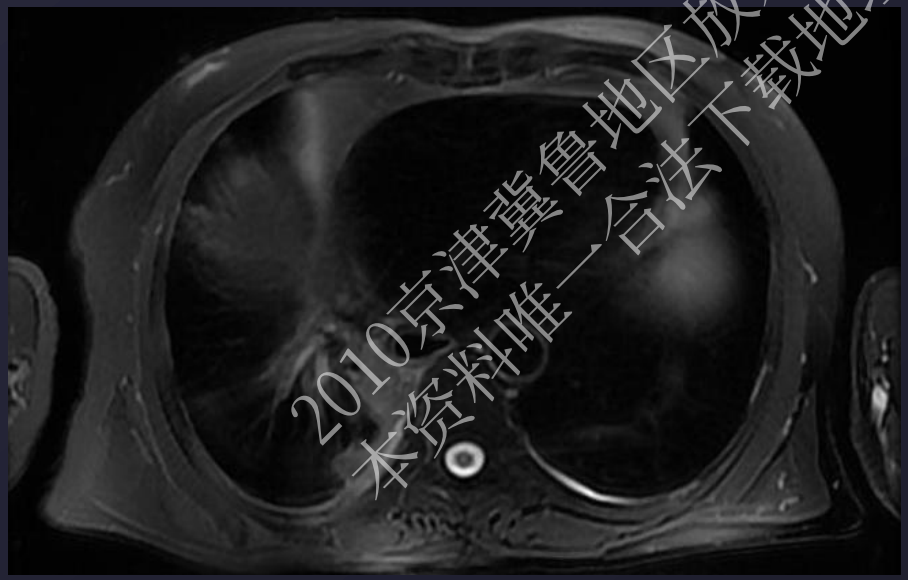
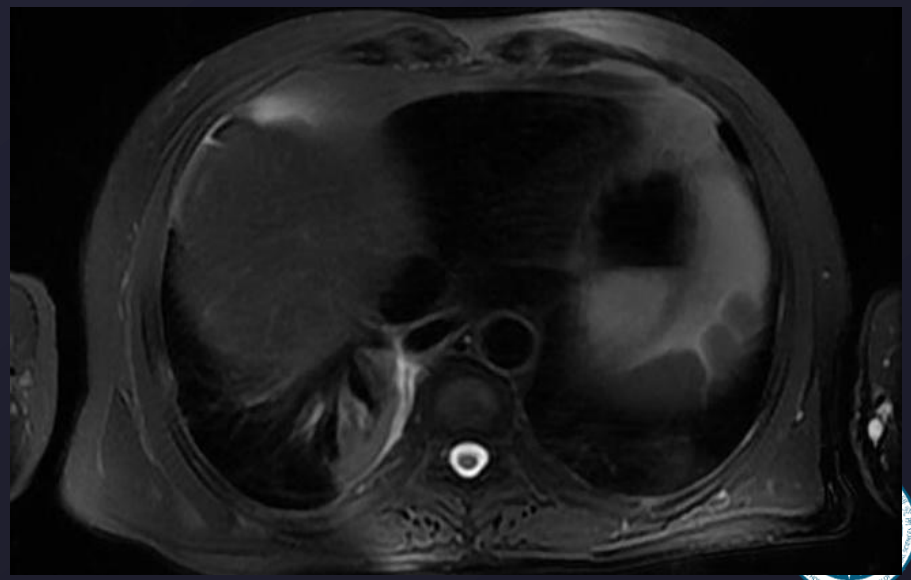
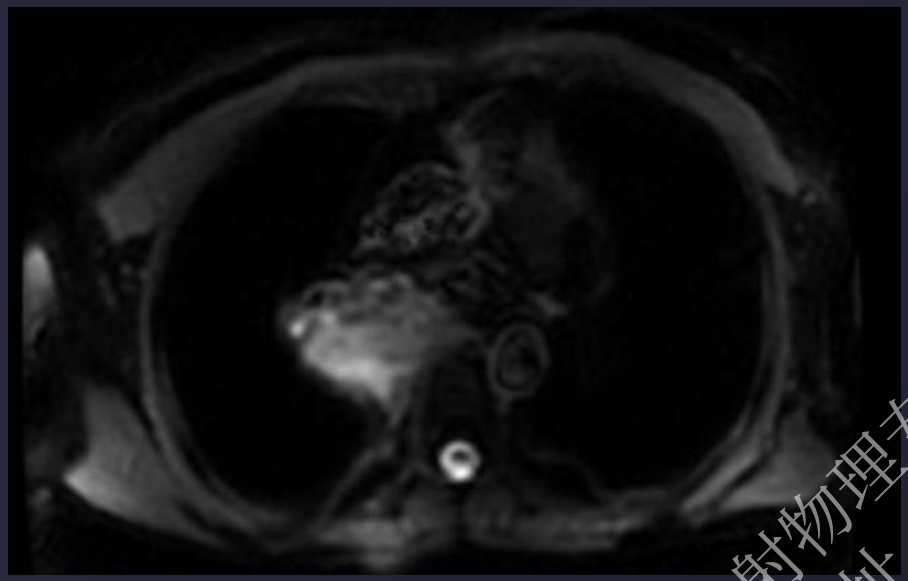


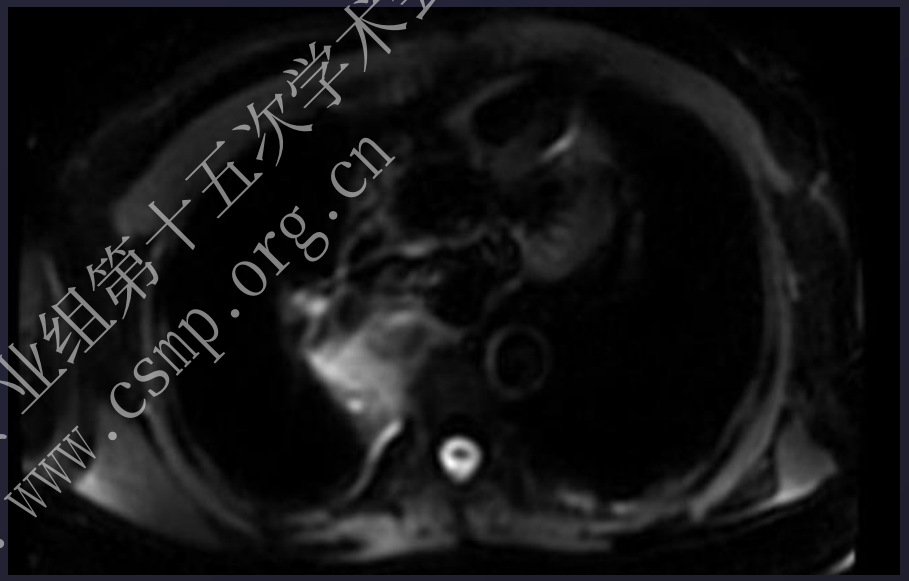


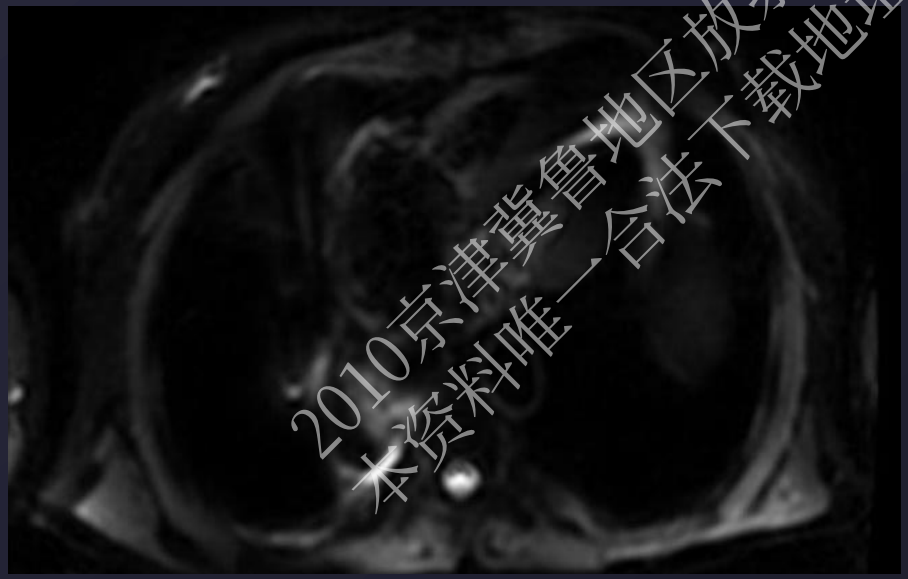


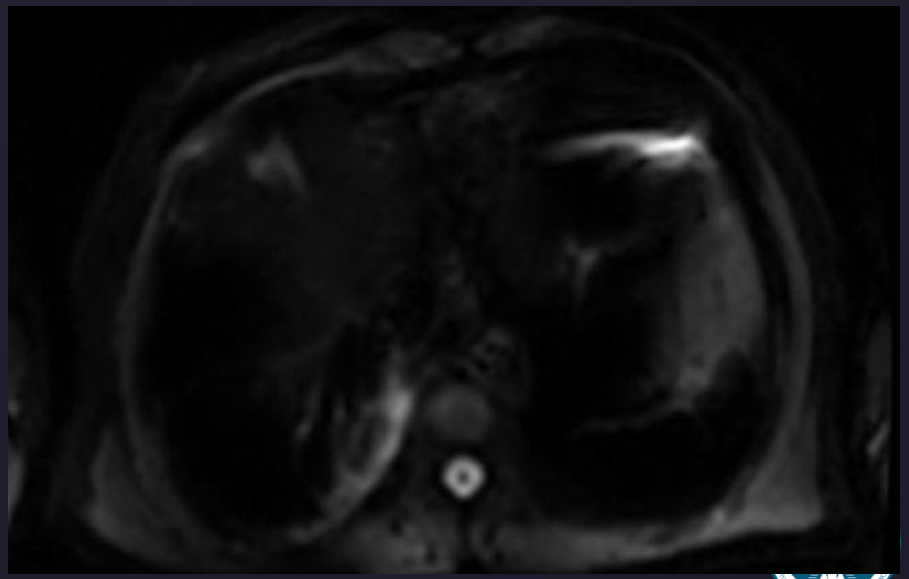


2010-5-21胸部MRI DWI









疗前诊断与分期检查

- 2010-4-19脑MRI：脑内多发缺血灶
- 2010-5-5骨扫描：未见明显异常
- 2010-5-12肺功能：轻度混合性通气功能障碍，弥散功能轻度减退
- 2010-5-13心电图：未见明显异常
- 2010-5-14颈腹超声：右下颈淋巴结肿大，左肾囊肿
- 2010-4-16病毒指标（-）
- 2010-4-23肿瘤标志物：NSE、CEA、CA125、cyfra21-1均高于正常
- 2010-5-20肝肾功能：基本正常

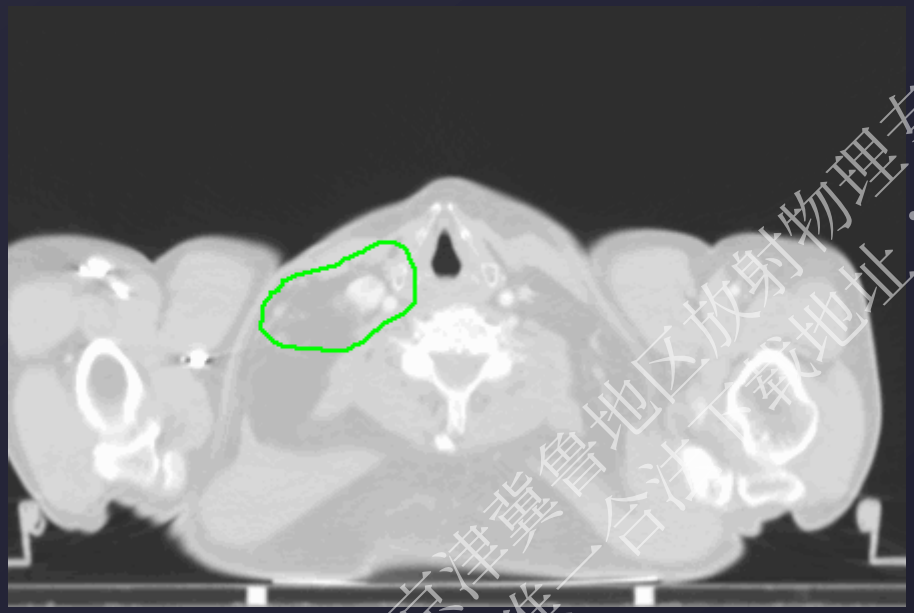
诊断与分期

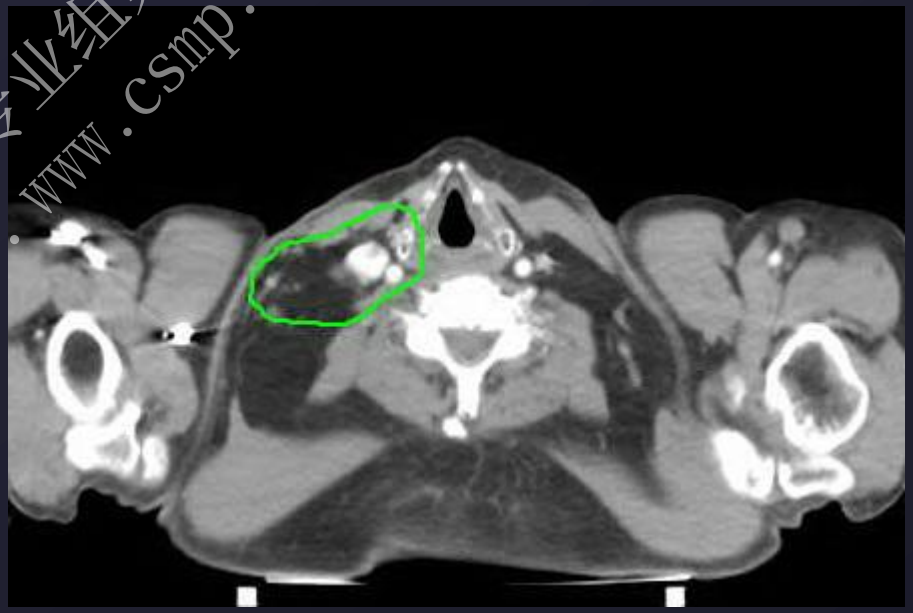
- P右肺下叶腺癌T4N3M0，ⅢB期
  - 侵及纵隔
  - 右肺门，纵隔4R/L、7区纵隔淋巴结转移
  - 右锁骨上淋巴结转移
- 颈部多发脂肪瘤部分切除术后
- 前列腺增生

靶区定义

- 根据ICRU50及ICRU62号报告
  - GTV：右肺下叶肺门处肿物（与隆突下淋巴结融合）
  - GTVnd：右锁骨上、4R/L纵隔转移淋巴结
  - CTV：GTV及GTVnd外放0.6cm，同时包括右下颈锁骨上，右肺门、1、2R、4R/L、7区纵隔淋巴结引流区。
  - PTV：CTV+0.5cm

靶区定义（1）





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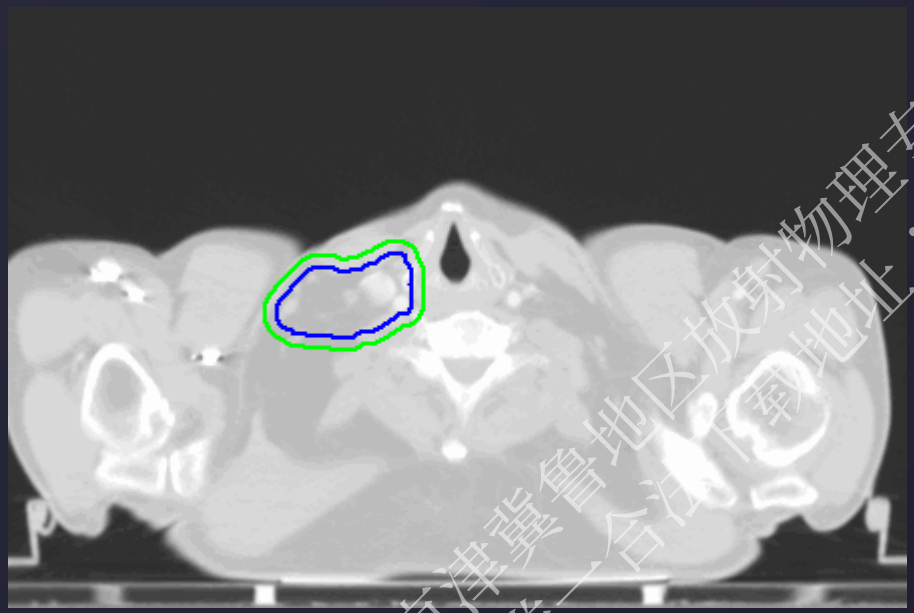

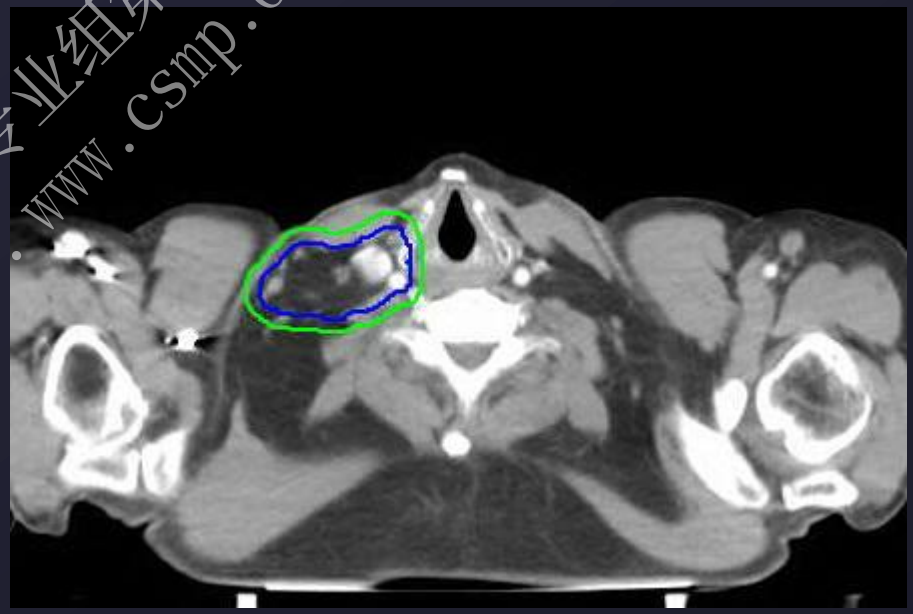

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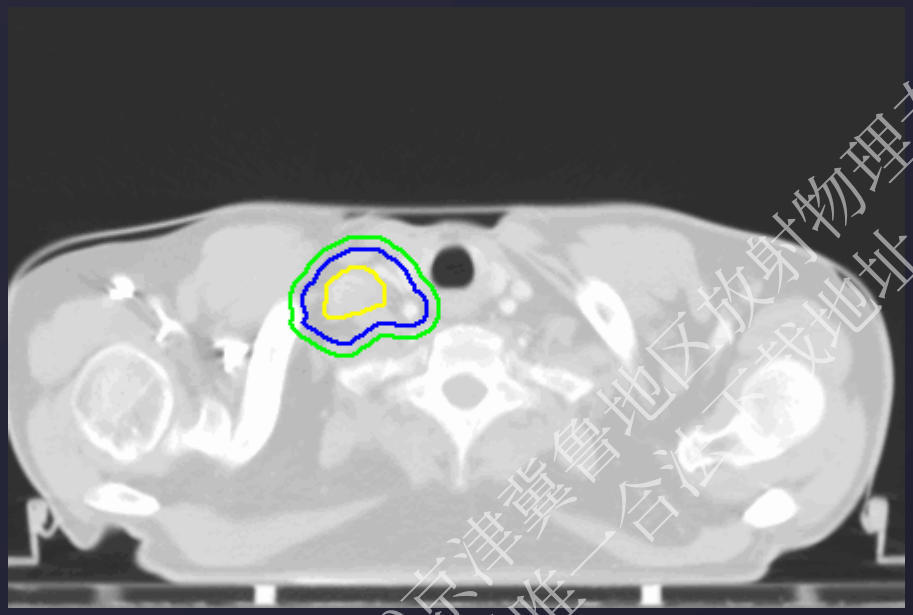

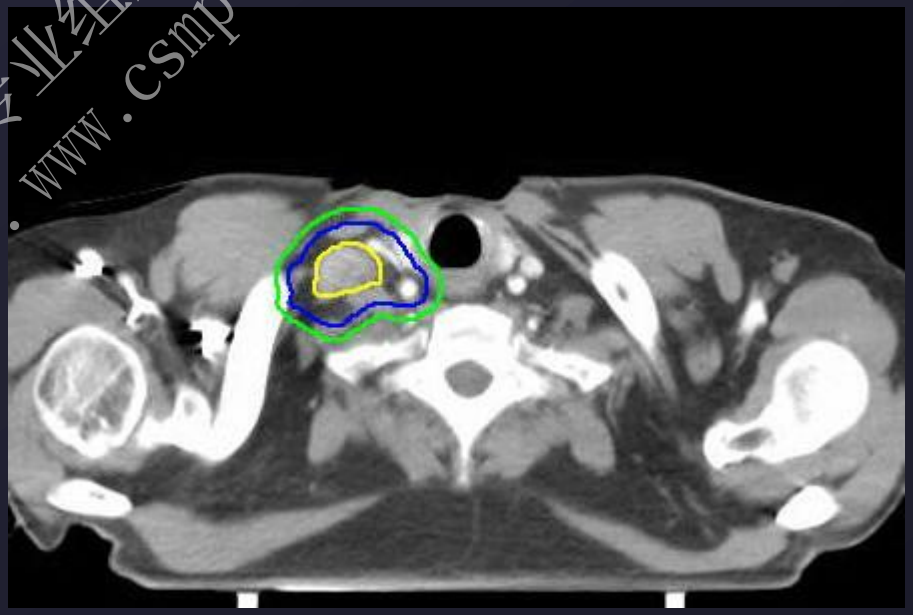

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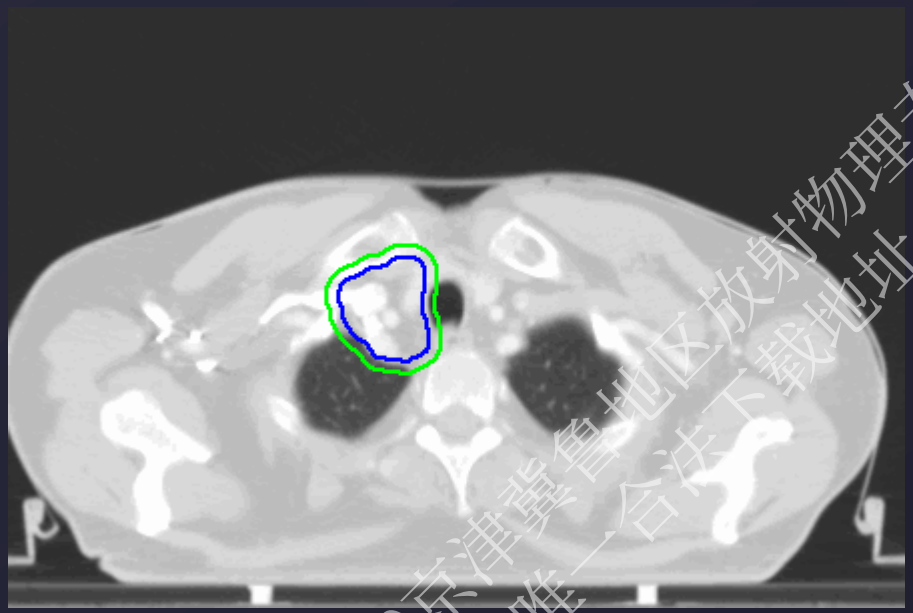

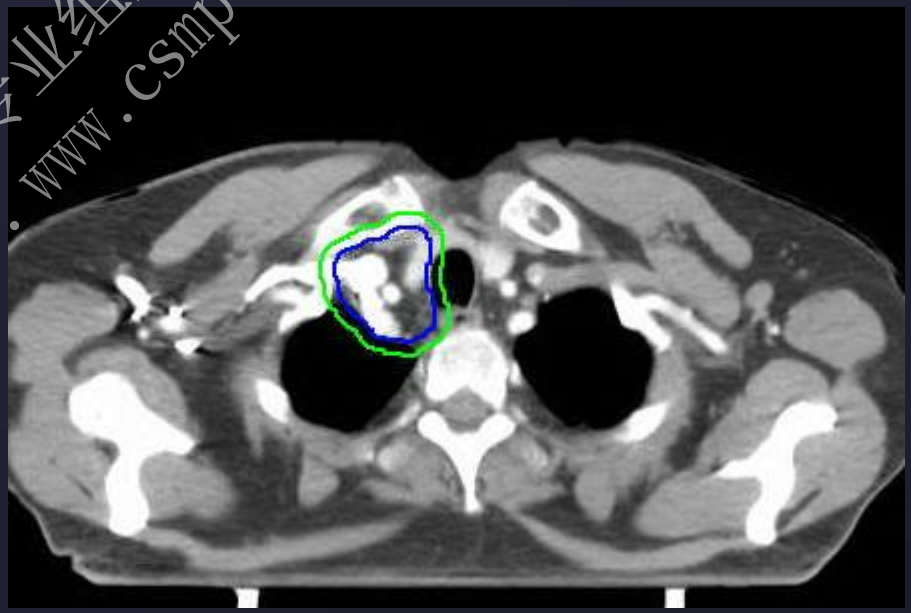

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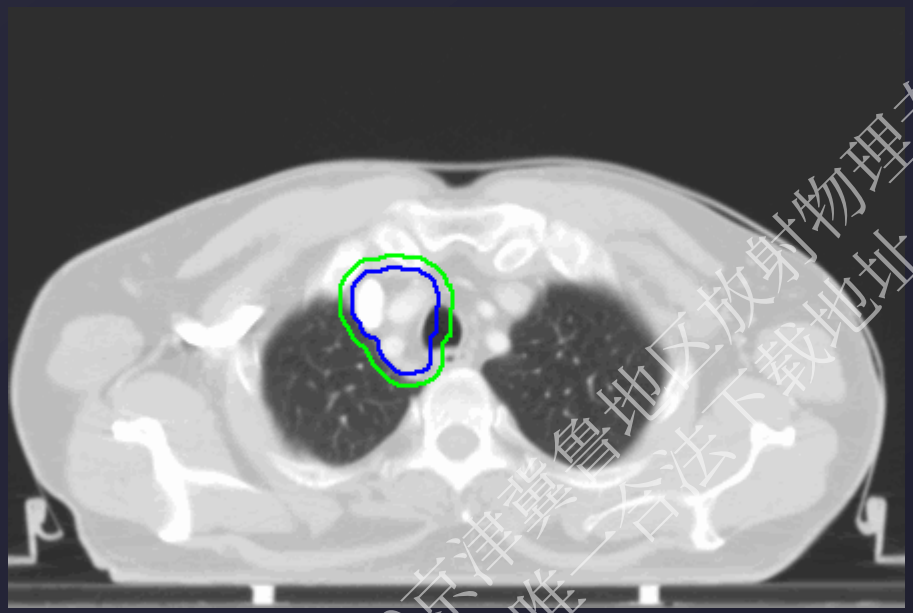

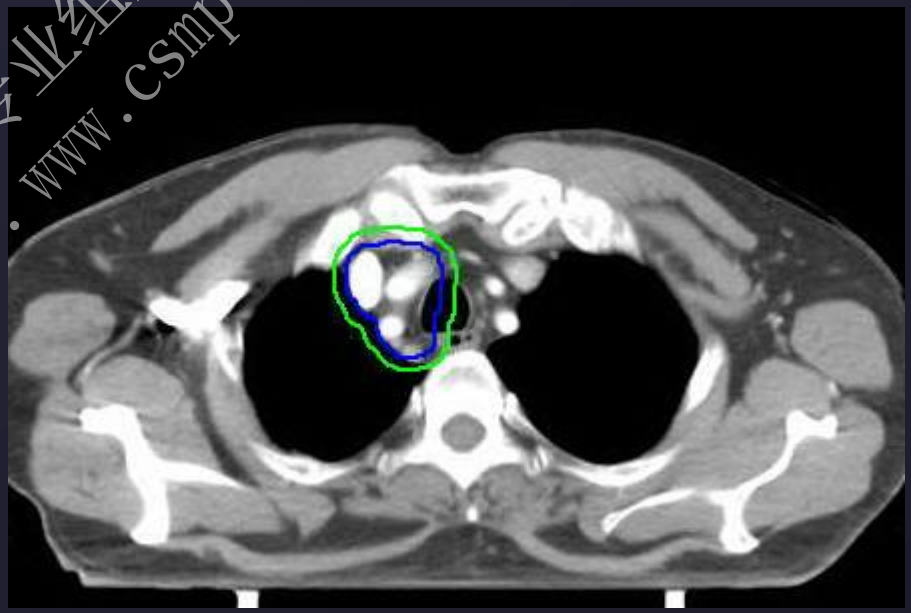

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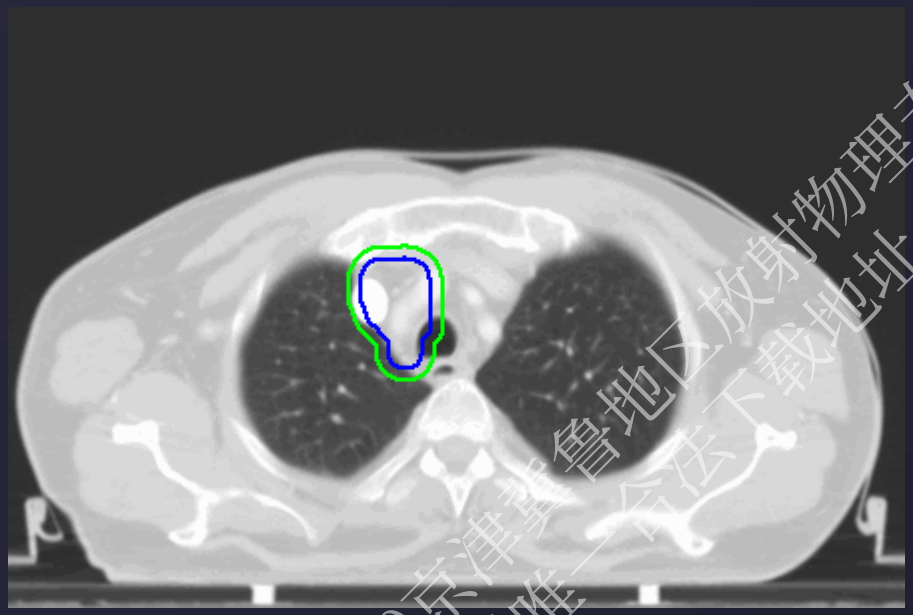

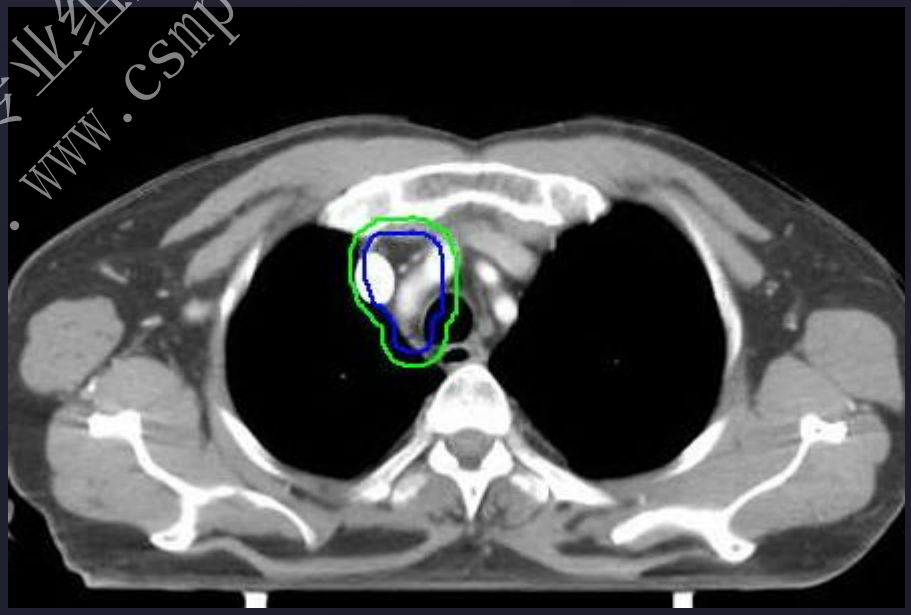

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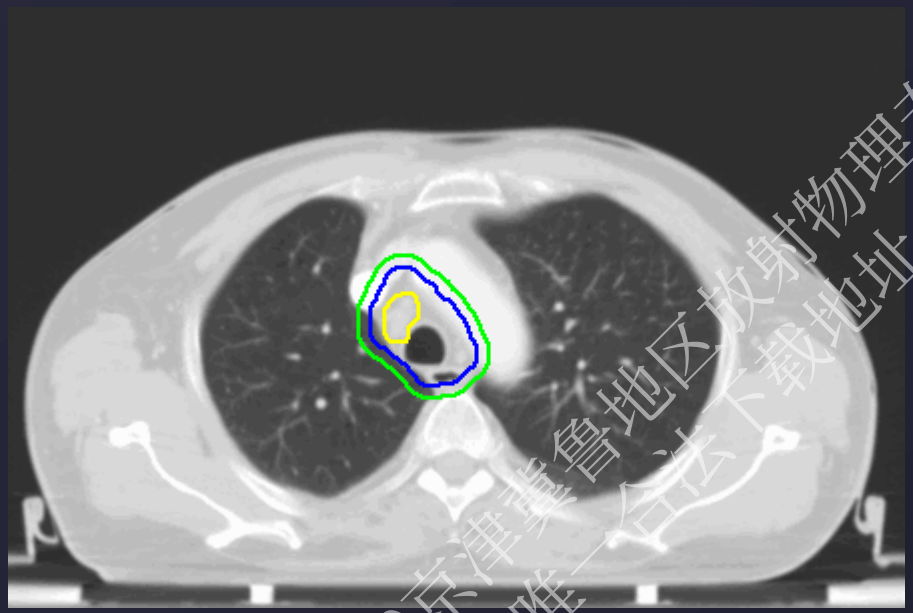

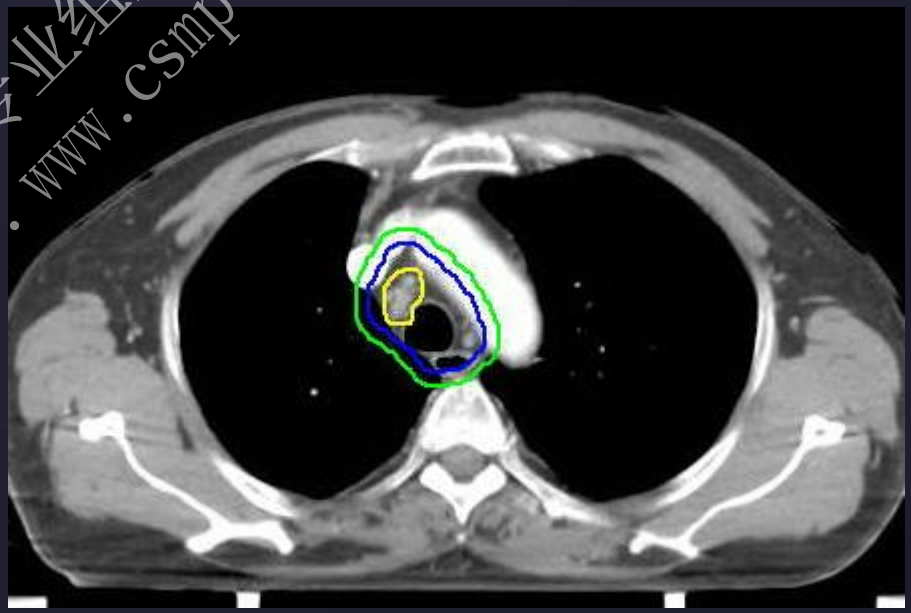

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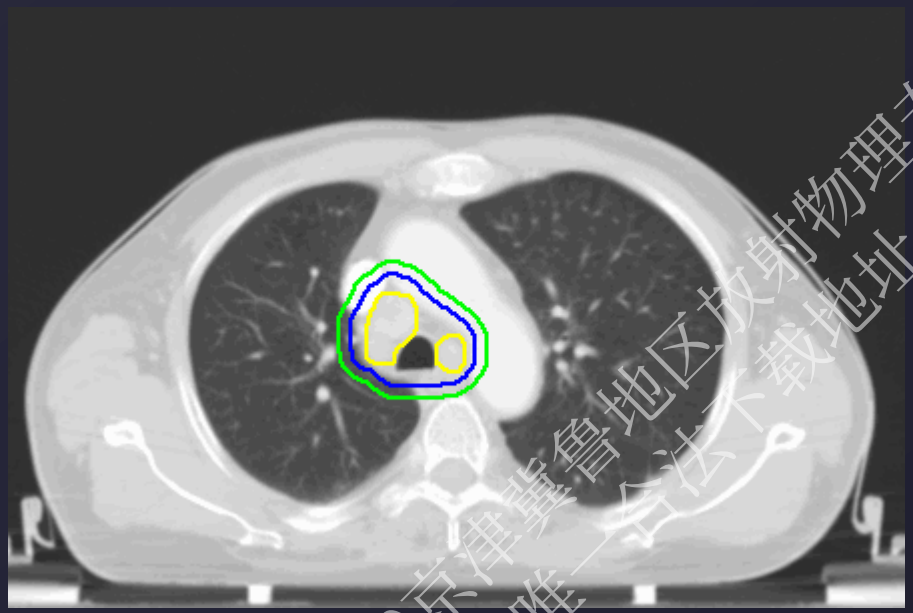

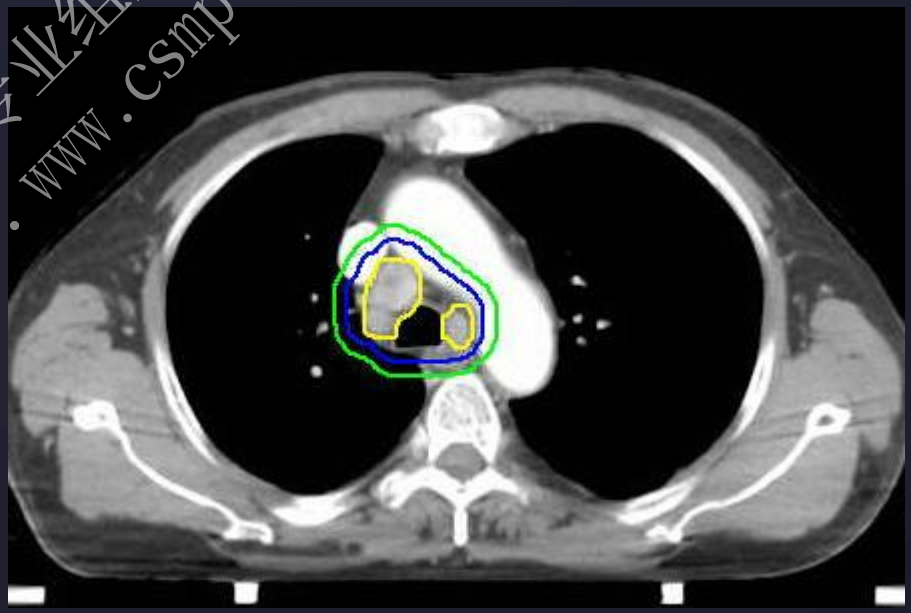

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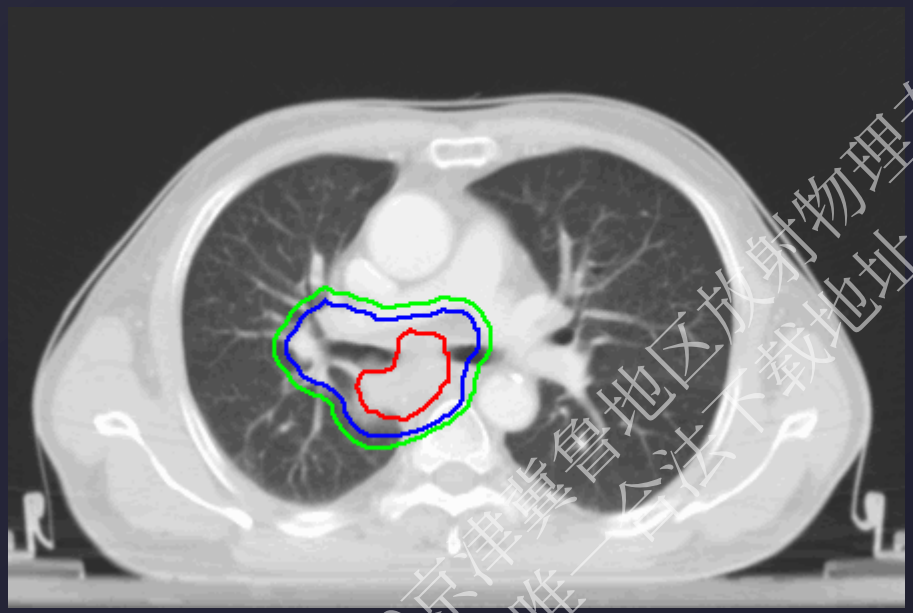

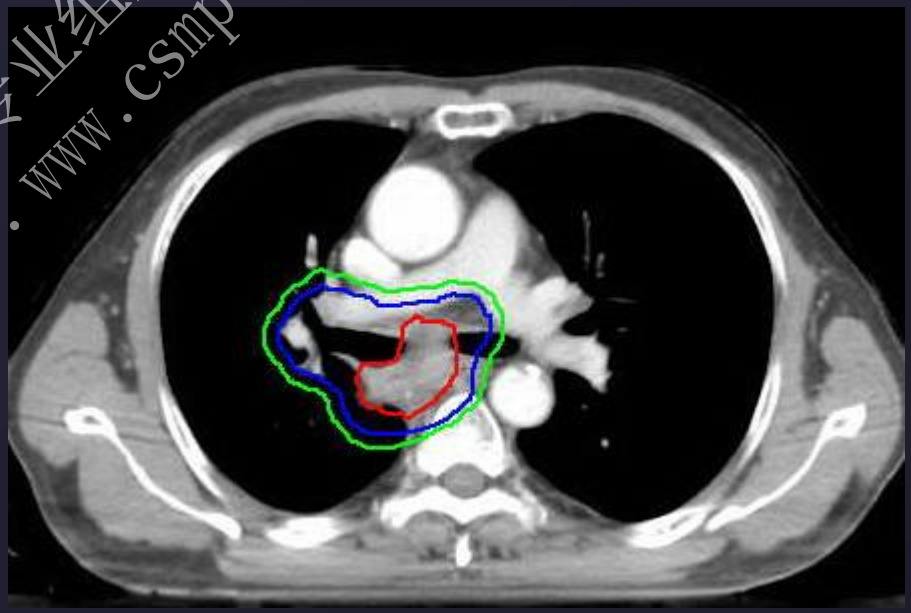

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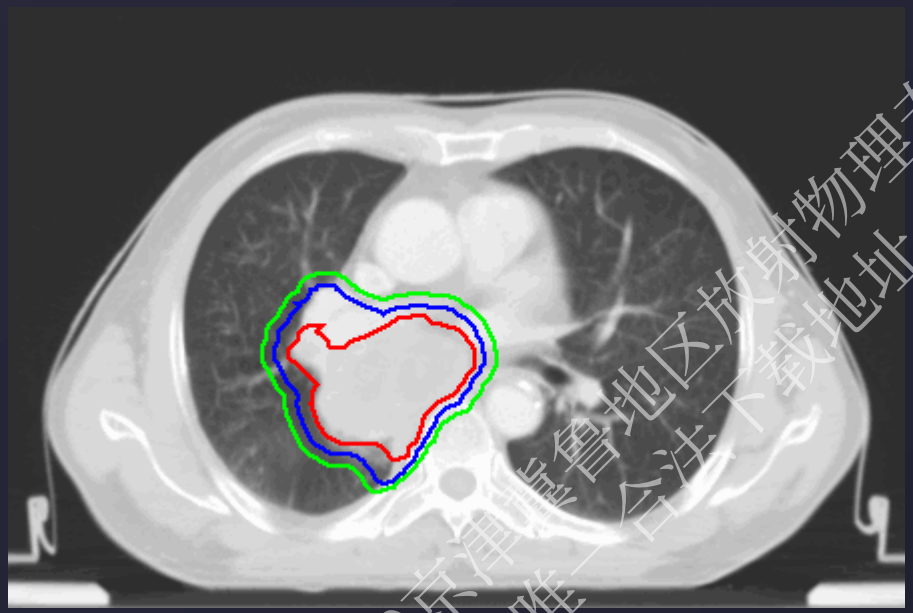

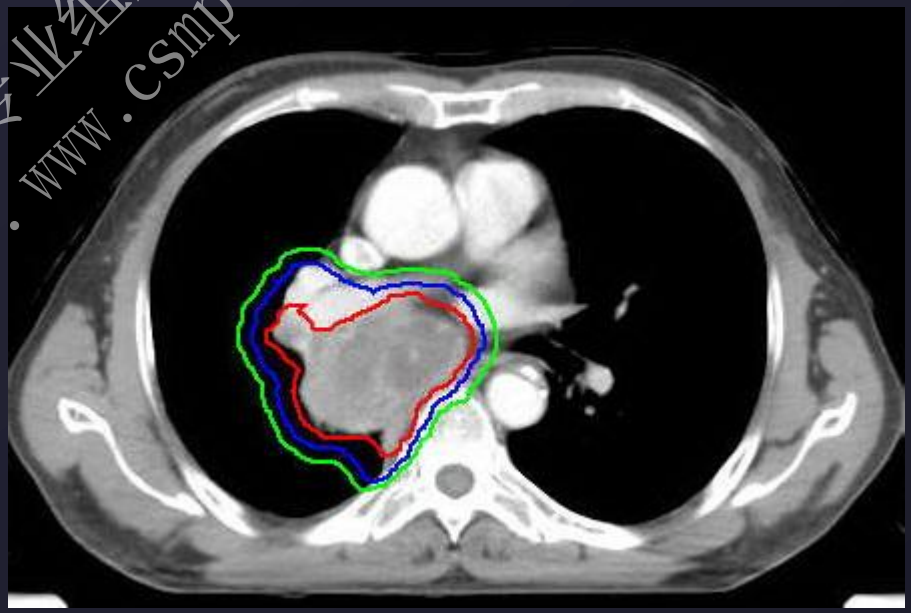

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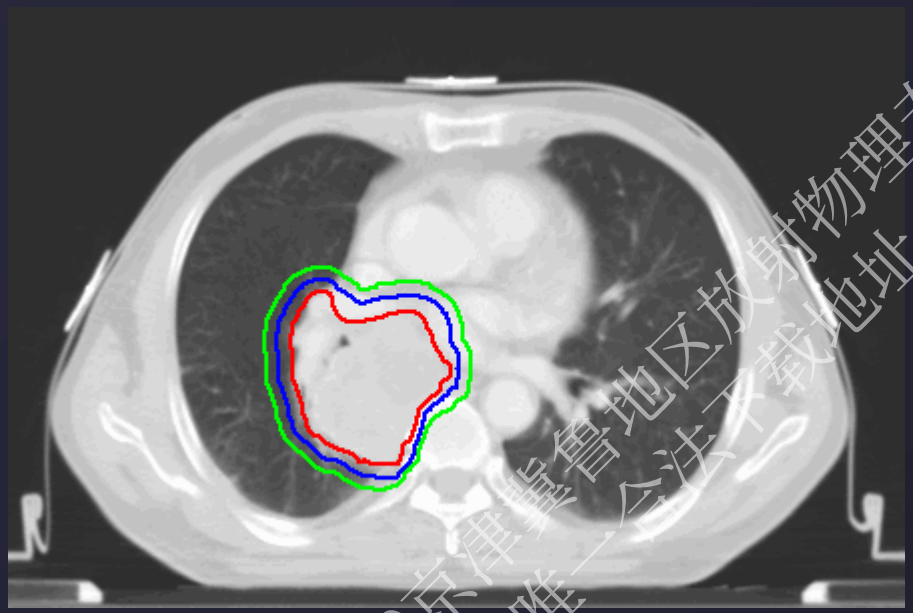

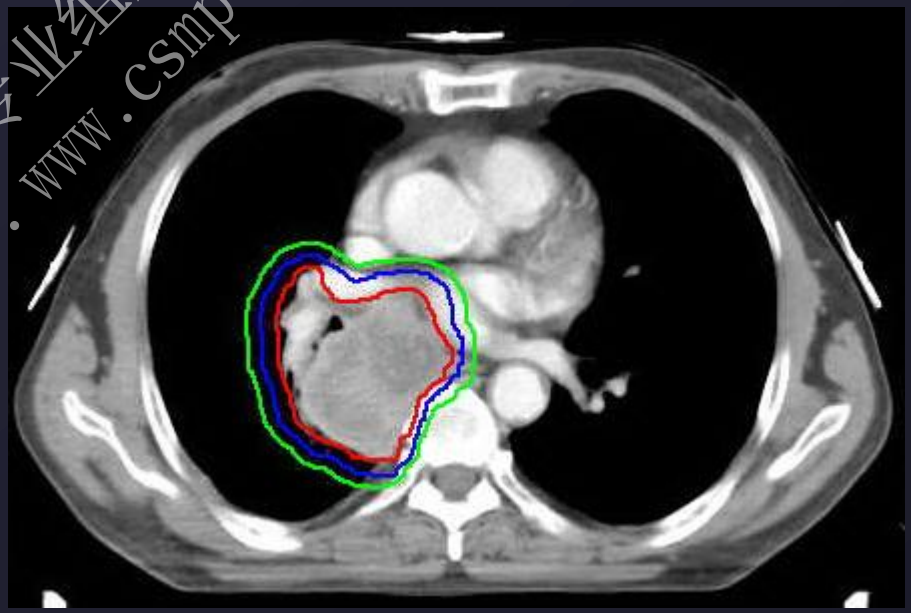

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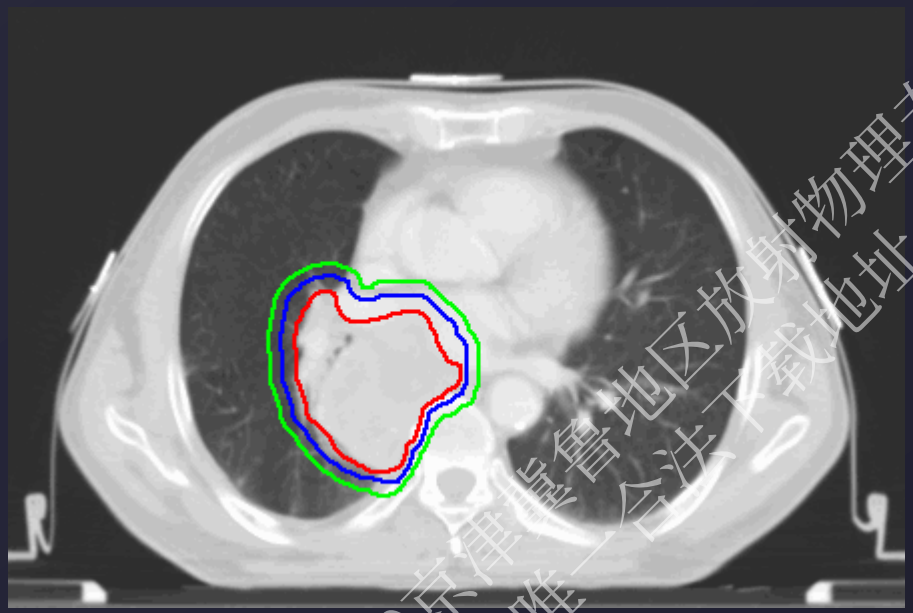

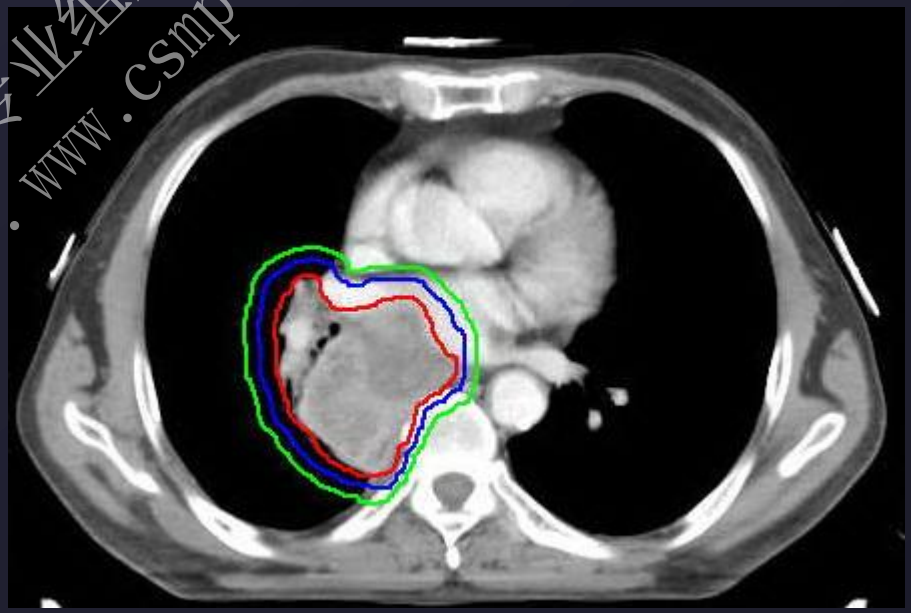

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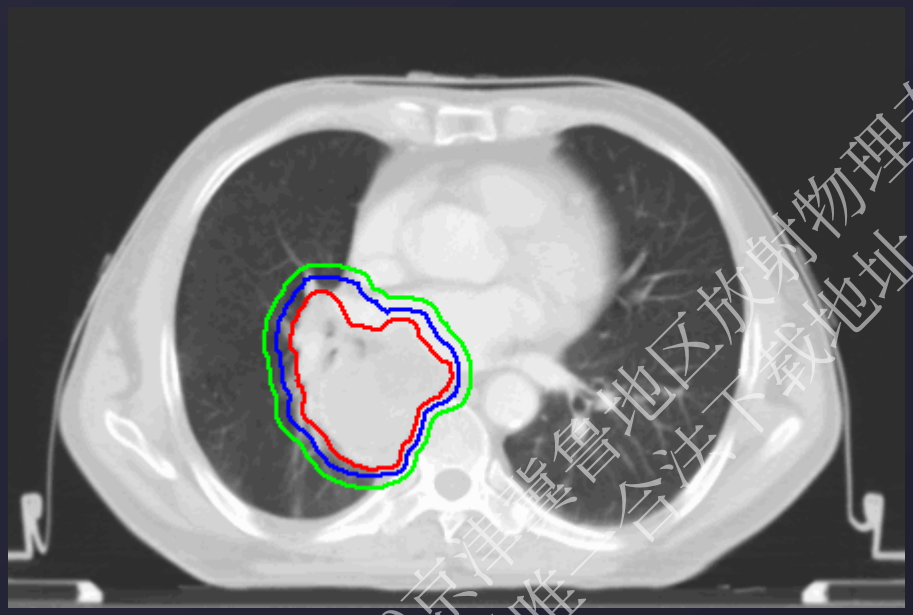

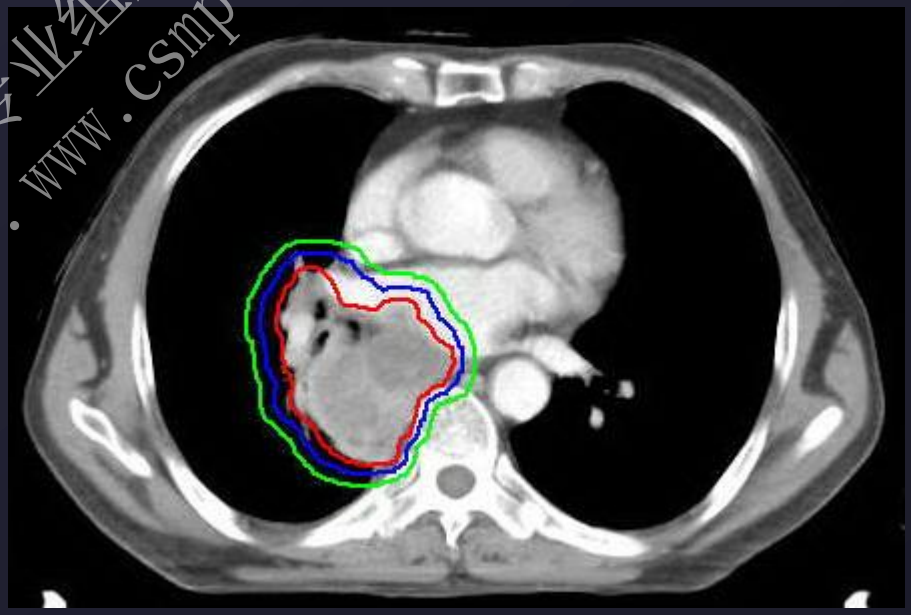

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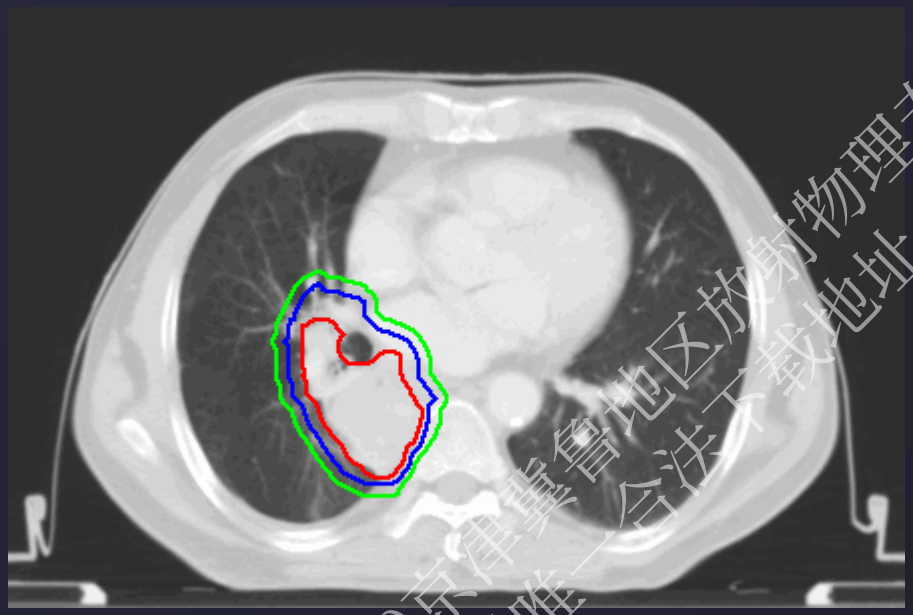

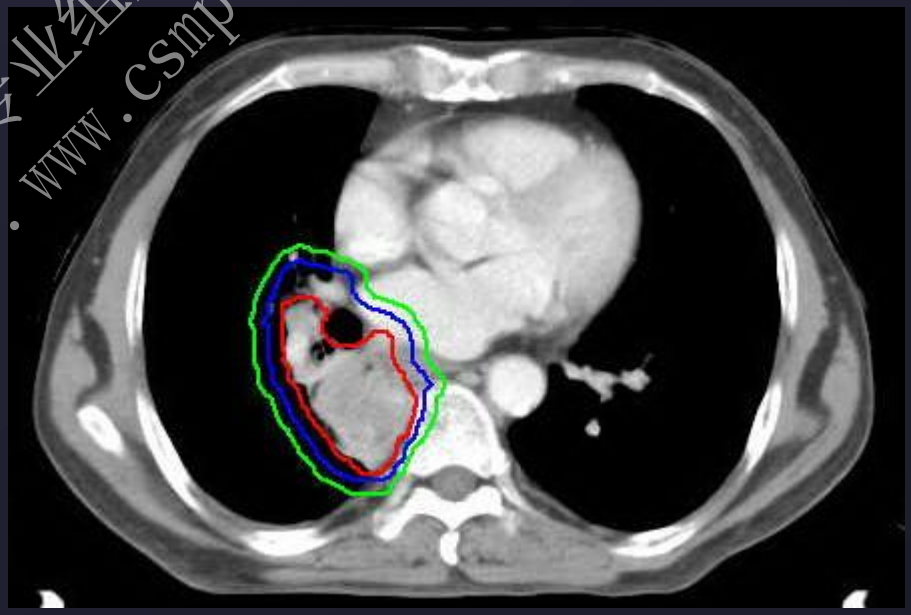

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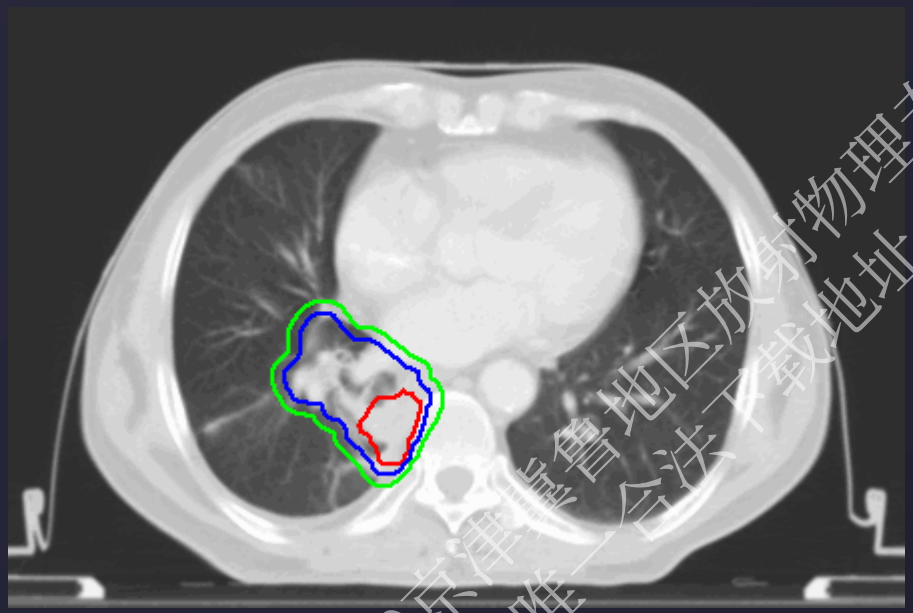

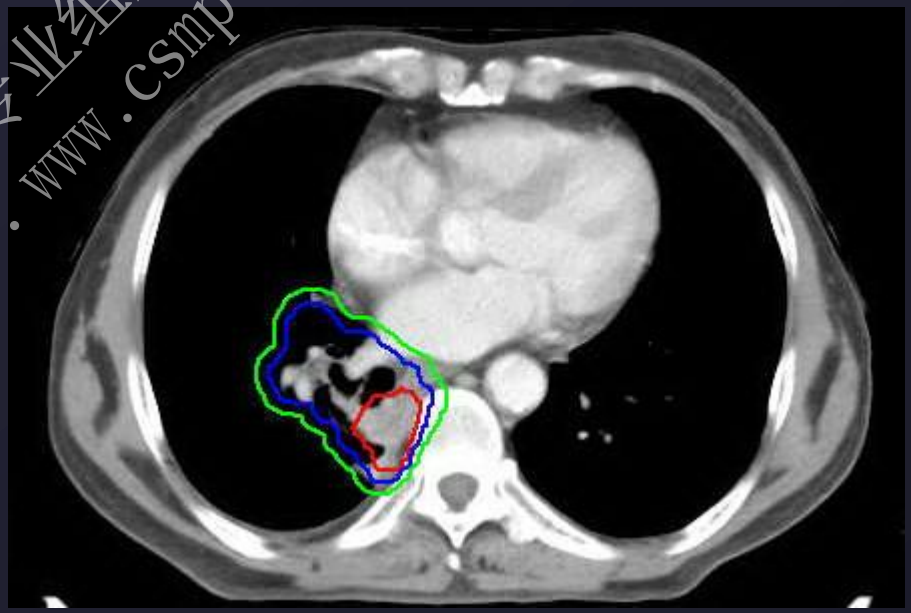

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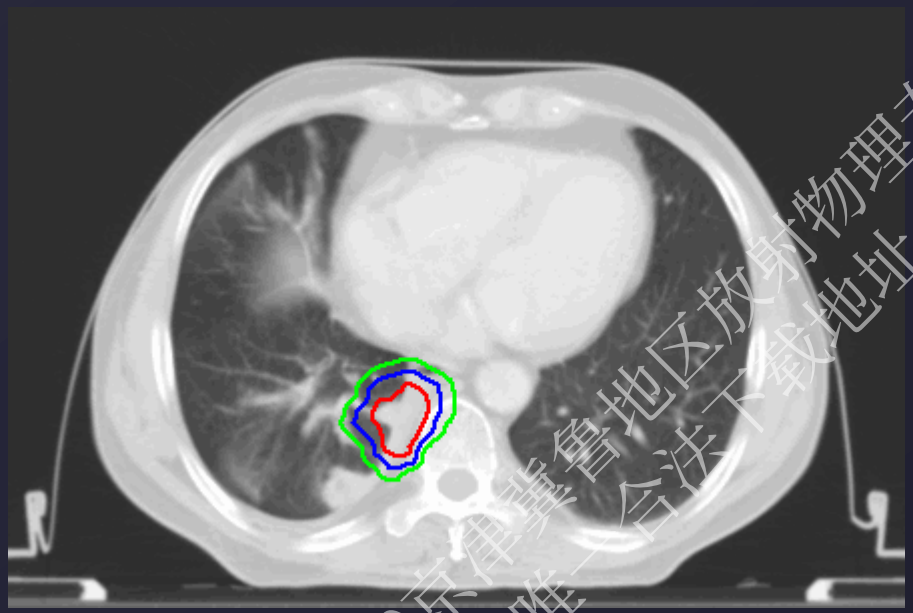

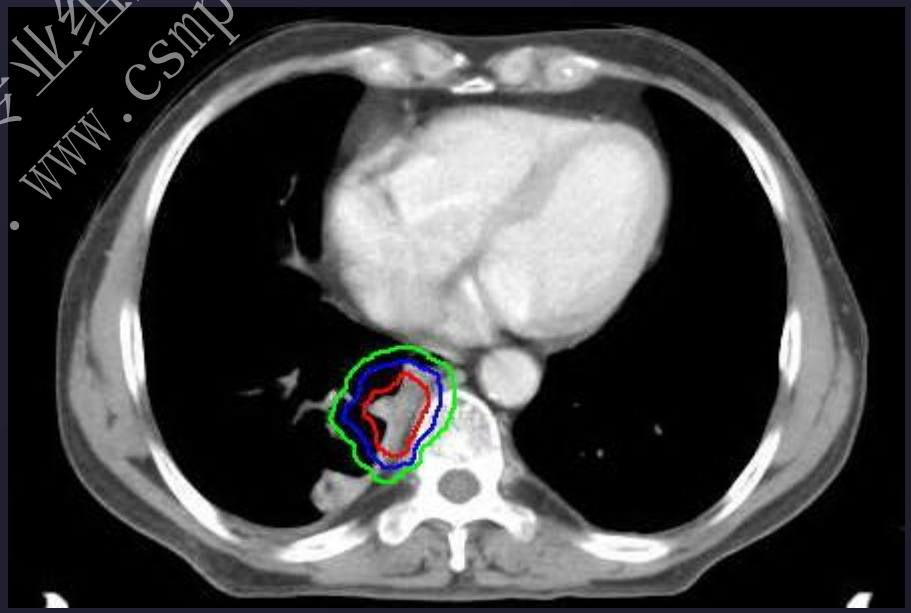

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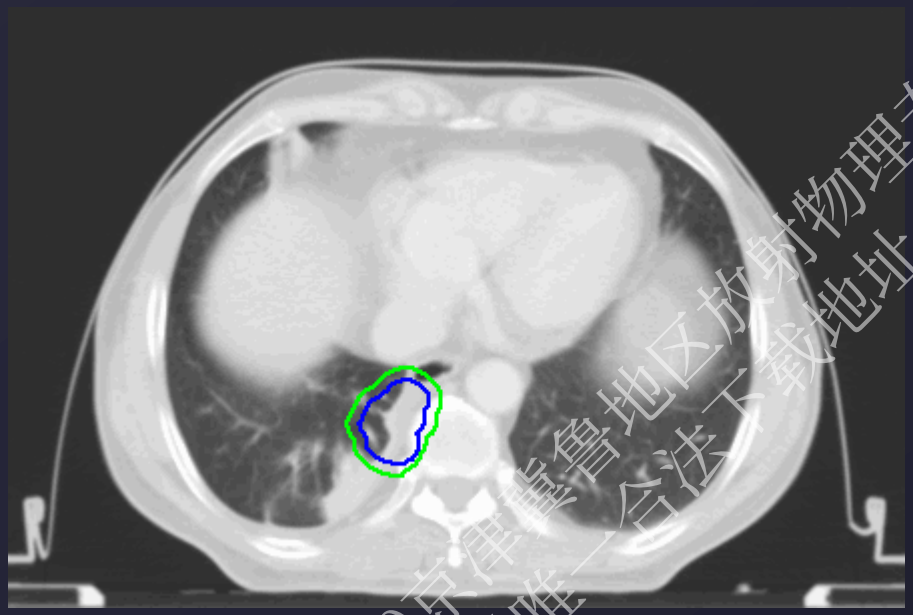

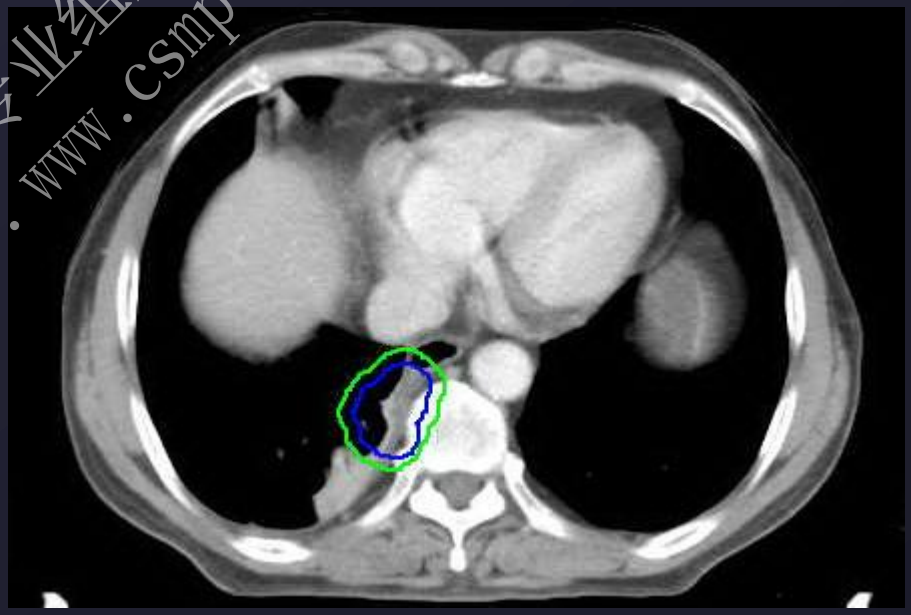

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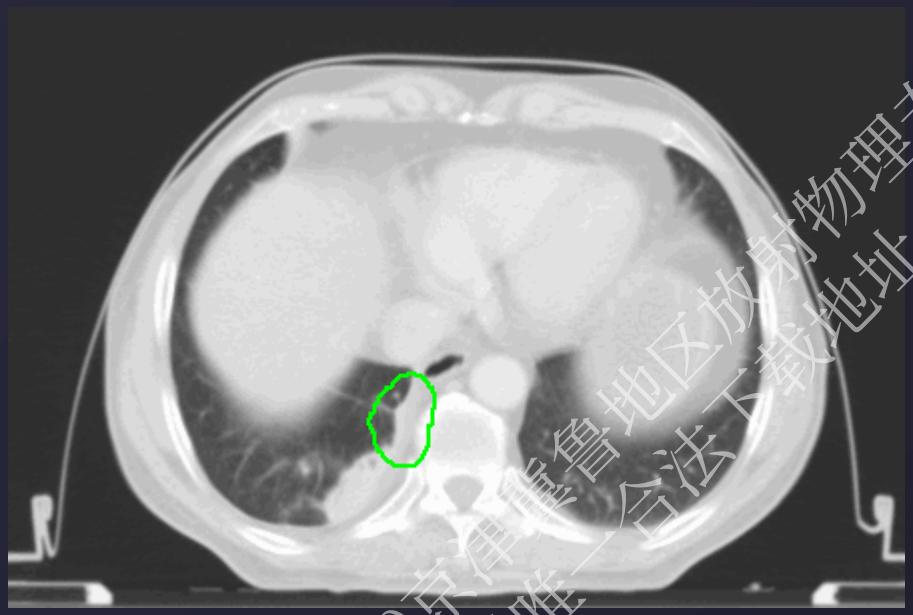
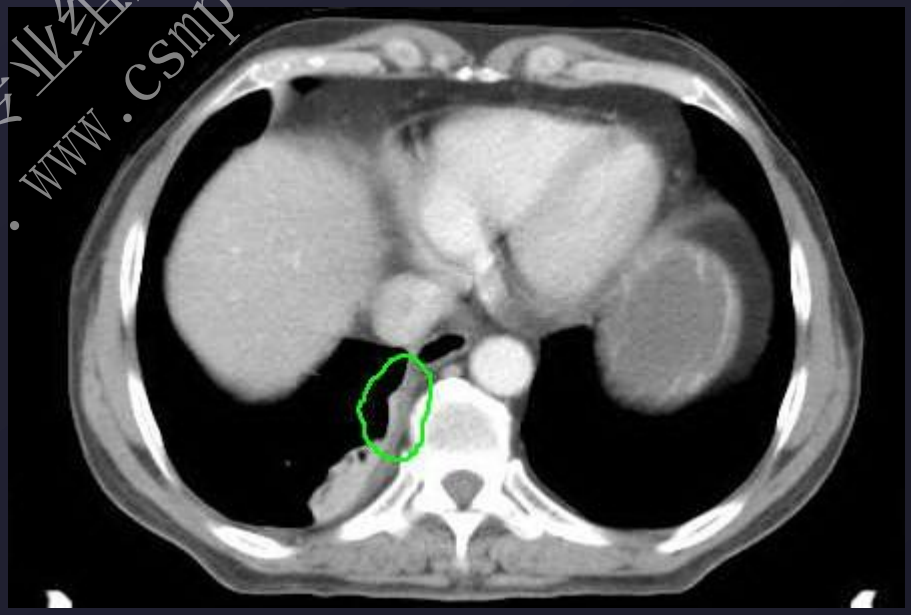




处方剂量与治疗方案

- 处方剂量：95%PTV 60Gy/30f
- 治疗方案：采用同期化放疗
- 化疗方案
  - VP-16 50mg/m² d1-5, DDP 50mg/m² d1、8，28天一周期

正常组织限量

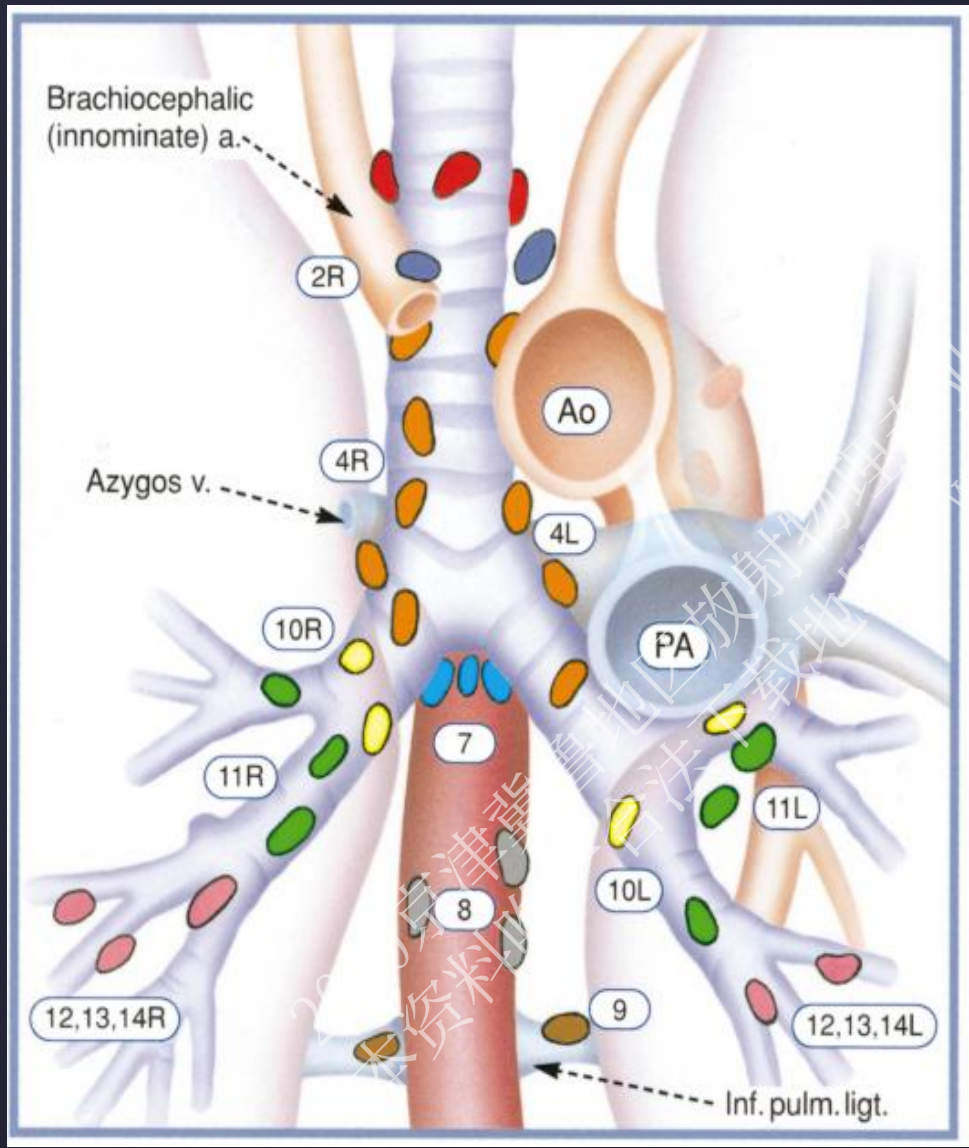
中文名称	英文名称	剂量限值
双肺	Lung all	V20≤28%～30%
脊髓	Cord	/
脊髓+3mm	Cord PRV_3mm	Dmax≤45Gy
脊髓+5mm	Cord PRV 5mm	/
心脏	Heart	V30＜40%，V40＜30%

谢谢！

附1.关于ENI

- 不做预防性淋巴结照射（ENI），以下情况下实施特定区域的预防性照射
  - 对于右中下叶或者左舌叶，左下叶病变，如果纵隔淋巴结受侵， 隆突下淋巴结应包入CTV
  - 对于左上叶病变， 如果纵隔淋巴结包括隆突下淋巴结受侵，主肺动脉窗的淋巴结应包入 CTV
  - 如果隆突下淋巴结或者纵隔淋巴结受侵，同侧肺门应包入CTV

附2. 纵隔淋巴结分区(1)



Superior Mediastinal Nodes

- 1 Highest Mediastinal
- 2 Upper Paratracheal
- 3 Pre-vascular and Retrotracheal
- 4 Lower Paratracheal (including Azygos Nodes)

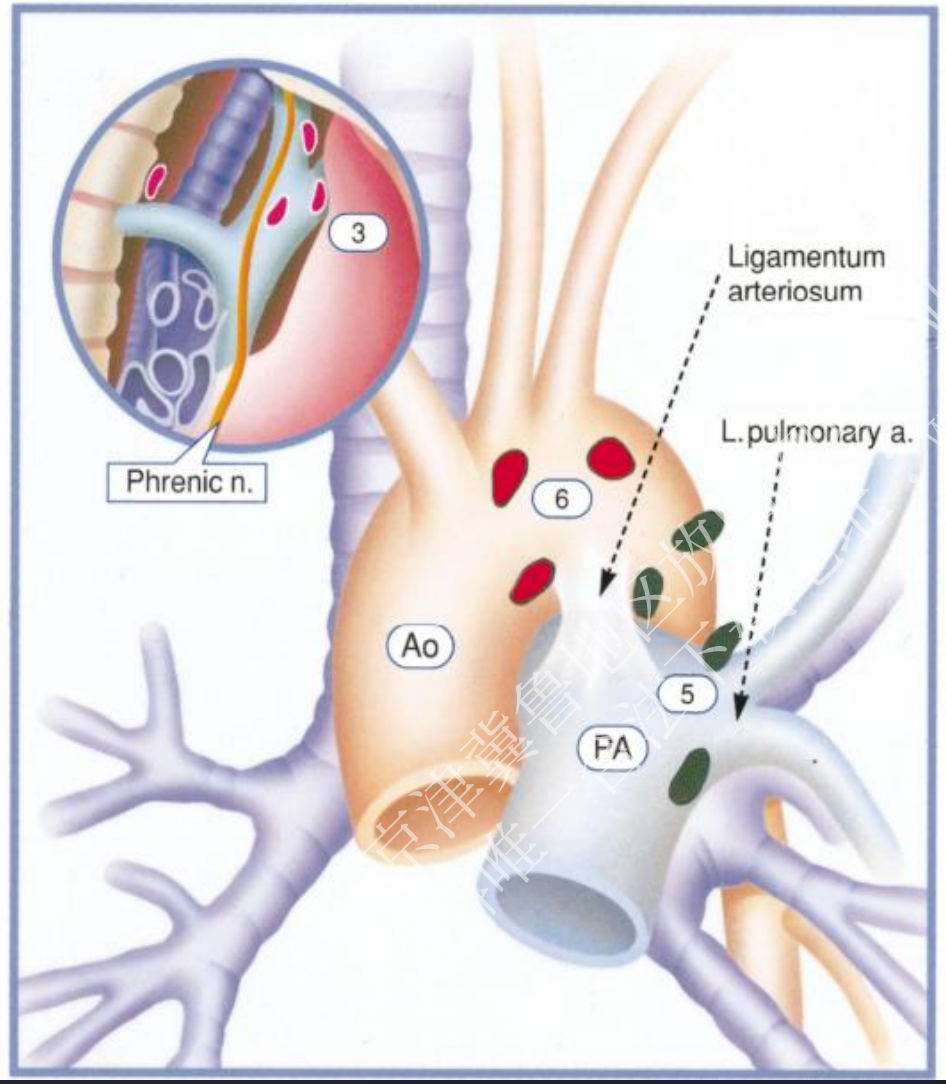
N_2 = single digit, ipsilateral
N_3 = single digit, contralateral or supraclavicular

Aortic Nodes

- 5 Subaortic (A-P window)
- 6 Para-aortic (ascending aorta or phrenic)

Regional lymph node classification for lung cancer staging.Mountain CF et al. Chest, 2006

附2. 纵隔淋巴结分区(2)



Inferior Mediastinal Nodes

- **7** Subcarinal
- **8** Paraesophageal (below carina)
- **9** Pulmonary Ligament

N_1 Nodes

- **10** Hilar
- **11** Interlobar
- **12** Lobar
- **13** Segmental
- **14** Subsegmental

Regional lymph node classification for lung cancer staging.Mountain CF et al. Chest, 2006