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Accidental Prehabilitation: a case of increased exercise frequency before thoracic surgery

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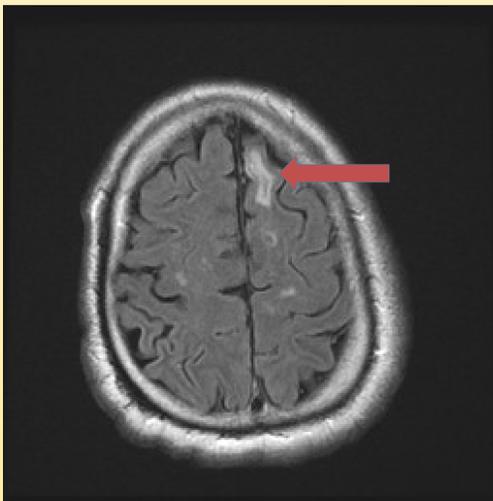
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CASE DIAGNOSIS

A 67 year-old man was found down with dysarthria, dysphagia, and right lower limb weakness. He was diagnosed with left anterior cerebral artery ischemic stroke, acute renal failure, atrial fibrillation, and deep venous thrombosis. He remained hospitalized for months as he did not have insurance for inpatient rehabilitation care and could not be safely discharged home.



Changes in left ACA on brain MRI at the time of lung cancer diagnosis while still inpatient

CASE DESCRIPTION

During that time, he got physical therapy 5 times per week and then 2 times per week. While hospitalized, he was found to have a left upper lobe nodule on imaging and then diagnosed with T2aN0M0 lung adenocarcinoma. Physical therapy was increased back to 5 times per week for at least 2 weeks prior to left upper lobectomy and mediastinal lymphadenectomy by video-assisted thorascopic surgery 2.5 months after admission. Hospital course was complicated by anticoagulation and postoperative hemothorax, which responded to evacuation. He was discharged to subacute care (after rate negotiation) and then home.

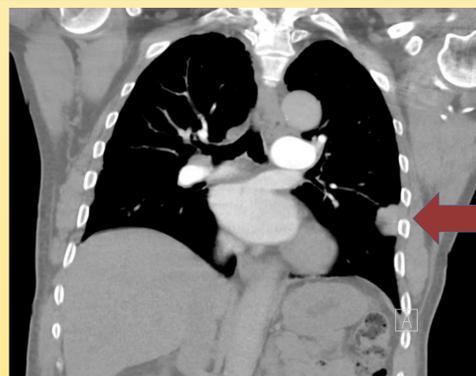
RESULTS

We present the case of a patient who got physical therapy **five times weekly in the 14 days prior to thoracic surgery**.

Although it is well established that exercise improves aerobic parameters and outcomes, the typical outpatient insurance benefit is under 120 minutes or only twice per week. At least 90 minutes a week is the current recommended amount of exercise for cancer patients.¹

Since this patient could not be discharged due to lack of insurance for acute rehabilitation or outpatient care, he remained inpatient and received physical therapy five times weekly prior to surgery.

Despite risk factors, he was safely discharged and recovered well.



Lung lesion found incidentally on CT to rule out PE while hospitalized for stroke

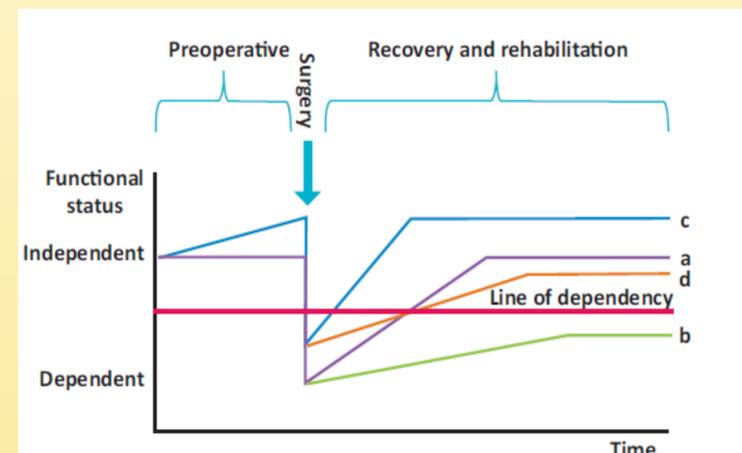


Hemothorax after video-assisted thorascopic surgery

DISCUSSION

This case highlights how prehabilitation, however accidental, can improve outcomes in cancer. It is rare to get therapy five times per week before lung resection surgery.

Graph below from Durrand² and colleagues demonstrates how those who have prehabilitation can remain ABOVE the line of dependency (red) even with a complication.



CONCLUSION

Inpatient therapy may not be the ideal delivery method for prehabilitation due to the increased cost, but physical therapy has the potential to change outcomes in cancer, even in and perhaps especially for patients with complicated comorbidities.

References

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2. Durrand J, Singh SJ, Danjoux G. Prehabilitation. *Clinical Medicine*. 2019 Nov 1;19(6):458-64.