

Successful neuraxial anesthesia for patient with LMNA congenital muscular dystrophy and heart transplantation



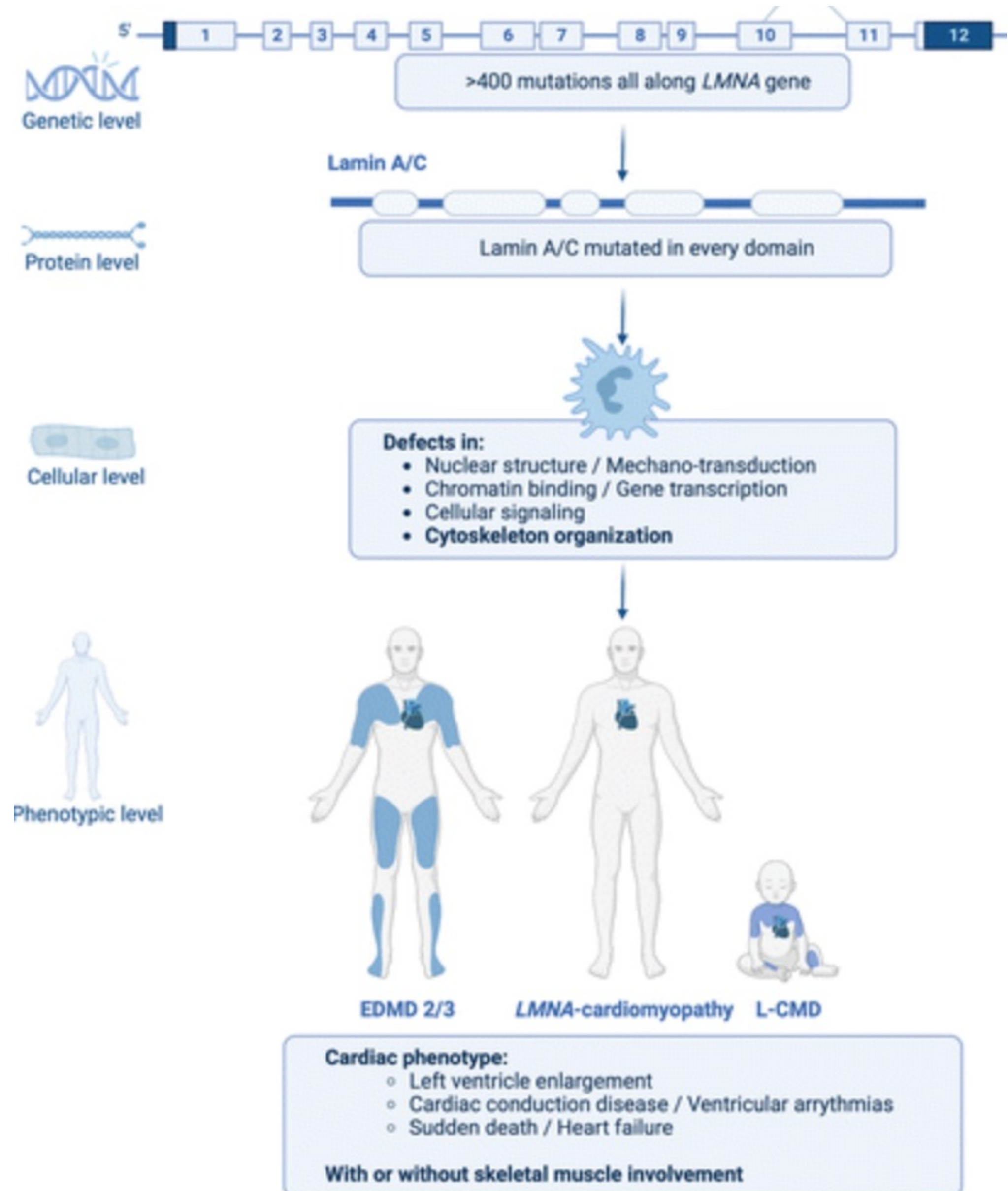
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Introduction

LMNA congenital muscular dystrophy

- A rare type of early-onset muscular dystrophy
- Mutations of *LMNA* gene, which encodes lamins A and C in nuclear envelope
- Presents with muscle weakness, joint contractures, severe spinal abnormalities, respiratory insufficiency, cardiac arrhythmias, and cardiomyopathy that may lead to sudden death [1,5]



<https://journals.physiology.org/doi/abs/10.1152/ajpcell.00471.2022>

Case Description

This is a 60 year old female with LMNA congenital muscular dystrophy who presented for a **right total hip arthroplasty**

Medical History significant for end-stage non-ischemic cardiomyopathy status-post orthotopic heart transplant.

Intraoperative Events:

- Spinal injection with 60 mg of Mepivacaine 1.5% at L3-4.
- Maintenance with a propofol infusion and 6L O₂ FM

Postoperative Events:

- Course was uncomplicated and she was discharged home 3.5 hours after arriving in the PACU.
- Baseline myopathy was stable in recovery



XR Spine Oct 4, 2022 – Minimal scoliosis of lumbar spine, sternal wires intact.

Discussion

There exist very few studies on anesthetic management specifically for LMNA congenital muscular dystrophy patients. We demonstrate a successful implementation of neuraxial anesthesia for total hip arthroplasty.

Anesthetic Concerns

- Potential difficult intubation
- Challenges with successful neuraxial techniques due to joint contractures and severe spinal abnormalities [2].
- Elevated risk of cardiac arrhythmias and postoperative respiratory failure
- Succinylcholine and volatile anesthetics may increase the risk of hyperkalemia and rhabdomyolysis
- Regional and TIVA anesthesia techniques have proven to be a safe alternative in numerous types of muscular dystrophy [2].

Conclusion: Combined with a thorough medical history evaluation and physical exam, neuraxial anesthetic techniques can be a safe and effective modality for patients with LMNA congenital muscular dystrophy.

References

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