

A CASE OF MASSETER SPASM AND A DIFFICULT AIRWAY FOLLOWING SUXAMETHONIUM ADMINISTRATION

Drs. Barney Dykes, Alexander Foreman and Maria Chereshneva
Croydon University Hospital

CLINICAL VIGNETTE

A multiparous 37-year-old, 50kg lady presented in labour. She had no significant past medical history and had never received general anaesthesia. She had previously undergone Caeserean section under spinal anaesthesia. Mouth opening was normal and there were no concerning features on airway examination. A category 1 Caeserean section was called for prolonged foetal distress in the context of scar tenderness.

Anesthesia was induced with 200mg propofol and 100mg suxemethonium. The patient demonstrated fasciculations without subsequent muscle relaxation, thereafter she had generalised rigidity with marked masseter spasm. A ‘cannot intubate, cannot oxygenate’ situation developed. A critical incident was declared with desaturation to SpO2 70%.

A further propofol 100mg and rocuronium 50mg were given. Equipment for emergency front-of-neck access requested. Facemask ventilation was established after approximately 3-4 minutes. A two-handed technique with high PEEP was needed with addition of a Guedel airway when possible. Adequate oxygenation (SpO2 100%) and anaesthesia (Sevoflurane MAC >1.0) were achieved. Delivery of the foetus required bilateral division of rectus abdominis as the patient demonstrated persistent hypertonia.

The patient was intubated following delivery using a videolaryngoscopy and stylet. Mouth opening remained very limited. Malignant hyperthermia was considered. The operation was completed and TAP blocks performed. The patient was extubated awake after a prolonged period of observation and full reversal of neuromuscular blockade.



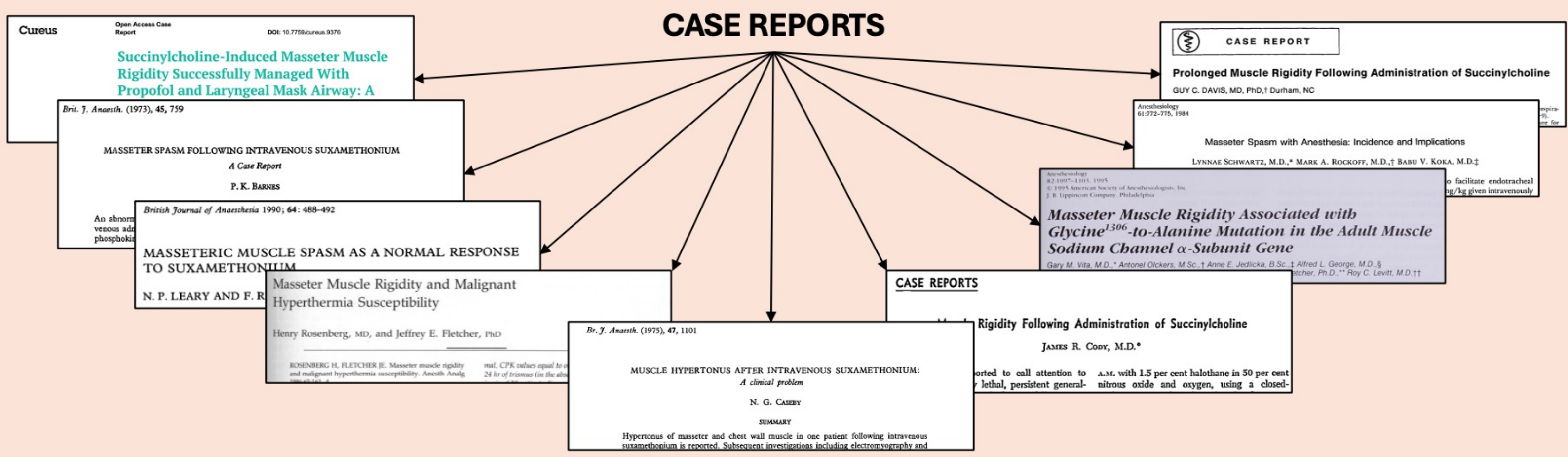
- Critical Incident Time Points**
- 03:30 – Emergency Call: Category 1 Delivery
 - 03:40 – Induction of Anaesthesia
 - 03:41 – Critical Incident Declared - Can’t Intubate, Can’t Oxygenate
 - 03:43 – Facemask Ventilation Established
 - 03:45 – Knife to Skin
 - 03:50 – Delivery of the Foetus
 - 03:55 - Intubation

The mother required a PCA for pain but had no other postoperative issues. Serum creatine kinase was 500 units/L. The neonate had delayed transition, with initial drowsiness and hypoventilation attributed to retained anaesthesia.

Events were explained to the mother and staff were debriefed. An adverse drug reaction was recorded, and a letter was sent to the mother’s GP. The mother was referred to the Malignant Hyperthermia Unit in Leeds for further investigation.

LEARNING POINTS

Prolonged rigidity, hypertonia and masseter spasm have been clearly described after administration of suxemethonium and are associated with malignant hyperthermia (MH) [1-9]. They can cause unexpected difficult intubation and possible need for emergency front-of-neck access.



Even in the absence of any untoward personal or family history, the patient was estimated to have a 25% chance of malignant hyperthermia [10]. Formal testing was therefore indicated. The patient was offered genetic screening and possible muscle biopsy of which results are awaited.

REFLECTIONS

- This case highlighted a number of topical points of discussion:
- The role of simulation training in preparation for rare anaesthetic events
 - The importance of a ‘second pair of hands’ in anaesthetic emergencies
 - The choice of neuromuscular agent for emergent intubation: suxemethonium vs rocuronium
 - The difficulty of determining whether to continue with surgery or wake up the patient

This case provided a ‘teachable moment’ relating to the management of unanticipated difficult intubation in the context of emergent Caeserean section. The successful outcome of this case was testament to multidisciplinary teamwork and application of emergency treatment algorithms.

REFERENCES: [1] Cereus 2020;12:e9376 [2] BJA 1973;45:759 [3] BJA 1990;64:488 [4] BJA 1975;47:1101 [5] Anesth Analg 1986;65:161 [6] Anesthesiology 1968;29:159 [7] Anesthesiology 1984;61:772 [8] Anaesthesiology 1995;82:1097 [9] South Med J 1977;70:1139 [10] Personal communication from Leeds MH Unit