Crowdsourcing Catatonia: Medical Crowdsourcing in Challenging Clinical Cases

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INTRODUCTION

- Medicine has a longstanding tradition of collaboration for complex cases
- CL psychiatry treats complex patients with co-occurring mental and physical health issues
- Crowdsourcing using information technologies facilitates collaboration between medical experts for complex cases [1,2,3]

OBJECTIVES

- Describe the use of an email listserv to obtain expert recommendations for the evaluation and management of a case of treatment-refractory catatonia
- Describe medical crowdsourcing methods and implications for use

CASE REPORT

- Woman with schizophrenia & developmental delay admitted for catatonia
- Treatment included discontinuation of antipsychotic, initiation of lorazepam up to 20mg daily, and 3x weekly ECT
- Alternative diagnoses considered and treatments initiated
  → No improvement

METHODS

- With consent from patient's substitute decision maker, clinical case summary circulated to over 800 members of neuropsychiatry email listserv
- Results collated and qualitatively coded

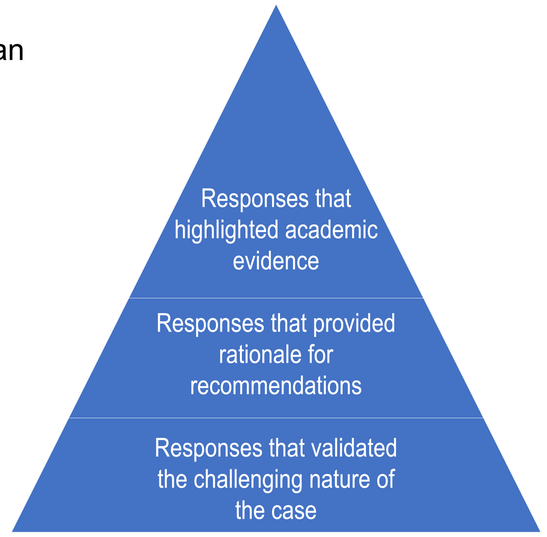
RESULTS

Listserv Response Content	N
Diagnostic clarification/etiology	45
Responses that provided rationale	38
Treatment recommendations	28
Validation of the challenging/interesting nature of this clinical case	20
Disclosure of respondent's own clinical experiences	18
Agreement with previous listserv respondent	16
Resource recommendations	11
Request for further clinical information	11
Request for updates on case	10
Specification of expertise of respondent	7
Suggestion for involvement of additional medical specialties	4

- Received 52 responses from clinicians globally
  - Responses coded into all applicable qualitative categories
- Responses highlighted:
  - Further work-up to rule-out underlying neurological or physiological causes → pursued and found to be non-contributory
  - Potential treatment with NMDA receptor antagonist memantine
    - Initiated → led to robust and sustained clinical improvement
    - Patient fully recovered and was discharged home

DISCUSSION

- Usefulness of responses can be organized as subjective hierarchy of evidence
  - Structure can be used to guide future responses
- Medical crowdsourcing can improve clinical care and patient outcomes
- Crowdsourcing can occur using simple technological infrastructure, including mobile applications and email listservs
- Despite the utility of these tools, use of medical crowdsourcing is limited
  - Limiting factors include concerns regarding security of communications, disclosure of patient health information, and medicolegal liability [4,5]



CONCLUSIONS

- Use of a secure email listserv elicited shared clinical experiences and clinically relevant off-label treatments that changed management
- Medical crowdsourcing:
  - Can allow practitioners to incorporate the collective knowledge of clinicians worldwide for the management of challenging cases
  - Can enhance clinical care and improve patient outcomes

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