



Research Article

Moellerella wisconsensis ISOLATED FROM STOOL SAMPLE HAVING PROLONGED HISTORY OF DIARRHEA

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Received: February 09, 2018; Revised: February 11, 2018; Accepted: February 12, 2018; Published: February 28, 2018

Abstract- Previously called as Enteric Group [1], *Moellerella wisconsensis* is a Gram Negative bacilli from Enterobacteriaceae family named for the first time in 1984 by Hickman Brenner et al isolated from patients with diarrhea is very rarely reported organism. Its isolation from various clinical specimens have been reported such as gall bladder tissue, blood culture and stool. *Moellerella wisconsensis* has very few or less case reports reported because it has been recovered from various non clinical sources like water, food and sometimes from the animal origin. We are reporting a case of isolation of *Moellerella wisconsensis* from stool sample for the first time in western region of India (Ahmedabad-Gujarat).

Keywords- *Moellerella wisconsensis*, Diarrhea, Stool, Enteric Bacteria, Pathogen.

Citation: Zaveri Anurag, et al., (2018) *Moellerella wisconsensis* Isolated from Stool Sample Having Prolonged History of Diarrhea. International Journal of Microbiology Research, ISSN: 0975-5276 & E-ISSN: 0975-9174, Volume 10, Issue 2, pp.-1009-1010. DOI: <http://dx.doi.org/10.9735/0975-5276.10.2.1009-1010>

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Academic Editor / Reviewer: Avani Parikh, Karuppasamy Murugan, Dr Purvi Desai

Introduction

Reporting of rare and/or opportunistic pathogen in Gastro-intestinal findings is found to be less encouraged [1,2]. There are various factors associated with the same viz. over growth of the normal flora, in-availability of advanced methods of identification and absence of the higher techniques to identify the variety of organisms etc. Particularly very few reports for *Moellerella wisconsensis* have been made and out of them most are from stool samples. The same has been isolated from other clinical isolates too [3].

Case Report

Lady aged 75 years resident of Ahmedabad was bed ridden since last 3-4 months and was admitted to the hospital with chief complaint of vomiting, pressure sore, diarrhea with previous history of fracture of neck region. Pulse 118/min, Blood Pressure 100/60 mm of Hg and tenderness in epigastrium and absence of fever.

Diagnosis and treatment

The treatment from the beginning was focused on the prolonged diarrhea having doubt of infection of *Clostridium faecalis*, acid peptic disease or stress induced diarrhea. Physical examination revealed absence of fever and tenderness in epigastrium. Laboratory findings include potassium level-2.90 mmol/L, sodium-131.00 mmol/L, Total protein-5.80, A/G ratio 1.00 Albumin-2.90, Blood Gas Analysis pCO₂-26 mm of Hg, HCO₃ 19.80mmol/L, Base excess-2.9. Samples of Urine and Stool were sent for culture and routine microscopy. The isolated organism in Urine culture was identified as *E. coli* using API®/ID32 card for identification of Gram Negative Bacilli on Mini-API (by Biomerieux, France) found to be sensitive to carbapenems, aminoglycosides, tetracyclines and nitrofurantoin. In stool culture after 24 hours of incubation on MacConkey agar medium lactose

fermenting and non fermenting mix culture were observed. The isolated organism was processed individually for routine identification using API®/ID32 strip for identification of Gram Negative Bacilli on Mini-API (by Biomerieux, France) and was identified as *Moellerella wisconsensis* and *E. coli*. Using the differential medium colonies of *E. coli* was separated from those of *Moellerella wisconsensis* and the identification step was repeated API®/ID32 strip. Typical biochemical tests like motility and pattern of antibiotic resistance were compared between the current case and those reported showed the 97 percent match and no tests against in MiniAPI findings. Thus, other case studies were referred to while reporting this organism to the patients. Antibiotic susceptibility tested showed the isolate was susceptible to ampicillin+sulbactam, piperacillin+tazobactam, imipenem, meropenem, ertapenem, doripenem, amikacin, netilmycin, chloramphenicol, tetracycline, doxycycline, minocycline and tigecycline. Patient was treated with imperial dosages of injectables and from the fourth day of treatment the patient showed signs of recovery and was discharged on 5th day of hospitalization [4-9].

Discussion

Samples such as stool samples having rich microbial normal flora should be screened for the antibiotic resistance pattern from the usual isolates and the utmost care should be taken to screen the isolates showing any deviations thereof. In the present case we are not only emphasizing on the multidrug resistant *E. coli* but also the presence of *Moellerella wisconsensis* which was isolated and identified for the very first time in Gujarat the western region of India.

Application of Research: This study aims to help microbiologists to develop keen interest in screening every single type of colony found from the sample. The

representation of the colony would help find such sort of rare infections which would not only help your patient but also the fraternity to boldly report such rare organisms and to the clinicians that these organisms being opportunistic may seriously make patient ill dragging to their hospital in serious condition.

Acknowledgement / Funding Agency: We are thankful to Sanjivani Super Specialty Hospital Pvt Ltd and Biocare Research (I) Pvt Ltd for their kind support.

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Research Project Name / Number: Nil

Author Contributions: All author equally contributed.

Author Statement: All author read, reviewed, agree and approved the final manuscript.

Conflicts of Interest: None Declared.

Ethical Committee Approval: This article does not contain any studies with human participants or animals performed by any of the authors.

References

- [1] Hickman-Brenner F.W., Huntley-Carter G.P., Saitoh Y., Steigerwalt A.G., Farmer J.J. and Brenner D.J. (1984) *J Clin Microbiol.*, 19, 460–463.
- [2] Wittke J.W., Aleksic S. and Wuthe H.H. (1985) *Eur J Clin Microbiol.*, 4, 351–352.
- [3] Ohanessian J.H., Fourcade N., Priolet B., Richard C.I., Bashour G. and Dugelay M. (1987) *Me'd Mal Infect.*, 6, 414–416.
- [4] Aguilar J.M., Castan˜o M.A., Gaston M.D., et al., (2004) *Clin Microbiol Newslett.*, 26, 54–55.
- [5] Drancourt M., Bollet C., Carlioz A., Martelin R., Gayral J.P. and Raoult D. (2000) *J Clin Microbiol.*, 38, 3623–3630.
- [6] Nasshall A.R., AL-Jumail I.J. and Bint A.J. (1986) *J Infect.*, 12, 31–33.
- [7] Quevedo S.M., Martı'n M.D. and Velasco A.C. (2006) *Clin Microbiol Newslett.*, 28, 142–143.
- [8] Wallet F., Fruchart A., Bouvet P.J.M. and Courcol R.J. (1994) *Eur J Clin Microbiol.*, 13, 182–183.
- [9] Stock I., Falsen E. and Wiedemann B. (2003) *Diagn Microbiol Infect Dis.*, 45, 1–11.