

Life Threatening Chronic Enteritis Due to Colonization of the Small Bowel with *Stenotrophomonas maltophilia*, Rare Case Report

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Abstract

This case report discusses a chronic enteritis case which is a challenging disease marked by an inflammation in the small intestine. As well as, it may involve gastroenteritis and enterocolitis. Through the report, a clinical course of an adult 46-year-old male patient free past illness has showed multiple complicated GI issues after a series of checkups started on October, 2022. Such as, gastroscopy, colonoscopy and CT. Due to his complain of abdominal pain and diarrhea started 5 months ago before the diagnosis and receiving the proper treatment as a patient suffers from Crohn's disease. Several lab tests have been taking in aim to identify the causative agent of signs and symptoms the patient showed. The clear result appears in the blood CX which indicated the presence of *S. maltophilia* sensitive on suprim. This type of obligate aerobic bacteria is classifying as gram negative bacillus which is opportunistic pathogen-uncommon cause of chronic enteritis disease found mostly as causative agent among hospitalized patients. This case shows importance in medical field due the presence of a rare pathogen as a dominant cause of chronic human gastrointestinal infection that should be treated urgently.

Keywords: Colonoscopy and CT • Inflammation • *Stenotrophomonas maltophilia* • Inflammatory bowel disease • Gastroscopy

Introduction

Chronic enteritis causes significant malabsorption and chronic diarrheal disease which provide difficult clinical issues [1]. It might be challenging to pinpoint the bacteria responsible for gastrointestinal infections, numerous pathogens have only been demonstrated to cause chronic diarrhea in uncommon cases. It is determined that the bacterial pathogen responsible for the small bowel colonization is *Stenotrophomonas maltophilia* which causes severe, potentially fatal malabsorption accompanied by significant weight loss, This instance demonstrates the part played by rare and resistant bacteria in persistent and longlasting gastrointestinal illnesses. We here report a case of chronic enteritis caused by *Stenotrophomonas maltophilia* bacteria in a 46-year-old male patient free of past illness complaining of abdominal pain and diarrheas months ago [2].

Case Presentation

A 46-year-old male smoker with no relevant medical history presented with recurrent attacks of central abdominal pain of one month duration gradual in onset, intermittent in course, not related to food, associated with diarrhea, on 26/7/2022, on the second day of admission the patient developed oligoarthritis as seen in Figure 1 started on IV fluids 2000 cc over 24 hours, famotonde 20 mg × 2 IV, ciprofloxacin 400 mg 1*1 IV, flagyl 500 mg × 2 IV, on 30/7/2022 the patient seen by surgical team and whole body CT scan with and without contrast was ordered, cipro is discontinued and meropenem 1 gm 1 × 3 iv was added, albumin 1*4 also added [3]. An abdominal ultrasound on July 31, 2022 showed a small, well-defined, rounded echogenic lesion in the left lobe of the liver, potentially a haemangioma, normal kidneys, unremarkable spleen, and an under filled urinary bladder. Further testing with blood culture showed *S. maltophilia* sensitive on suprim antibiotic. A colonoscopy showed multiple colonic ulcers in the ascending colon and sigmoid, leading

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to biopsy results that were inconclusive for infection vs. Inflammatory Bowel Disease (IBD), Abdominal CT angiogram done and ruled out mesenteric ischemia. Tazocine 4.5 mg was added in August 1, 2022, and showed improvement in abdominal pain by August 6, 2022. Inflammatory markers were high (WBCs were 28000 and CRP was 200) so infectious disease specialist consulted and he made sulprim 400 mg 2*4 tab, discontinued vancomycin and added flagyl 500 mg 1*3 IV, ordered to repeat blood culture. Haematology consult ordered to rule out immunosuppression from myeloproliferative disease, so immunoglobulins levels (IgA, IgG, IgM) and immune electrophoresis of serum proteins were ordered, The patient was prescribed prednibab 40 mg, Ensure 250, calcium+vitamin D, suprim 400 mg, and flagyl IV 500 mg on August 7, 2022, and discharged home on 8/8/2022 [4].



Figure 1. Redness of the knee joint suggestive of arthritis.

Gastroscopy in October revealed haemorrhagic gastritis with erosions and black spores and enlarged erythematous duodenal folds. Colonoscopy showed ileitis with multiple large and deep ulcers, but normal biopsy results.

Colonoscopy on October showed ileitis with multiple large and deep ulcers and biopsy taken, at this moment the patient treated as Crohn’s disease and started on Imuran and continued on steroid 15 mg.

Laboratory test results in November 7, 2022 showed normal levels of ferritin (215.35 ng/ml) and parathyroid hormone (42.8 pg/ml), elevated levels of alpha-fetoprotein (3.14 ng/ml) and carcinoembryonic antigen (1.73 ng/ml), and positive calprotectin (93.9 Ug/g). Immune panel results showed elevated levels of immunoglobulin A (487 mg/dl) and CA 19-9 (44.98 u/ml), and normal levels of immunoglobulin G (981 mg/dl) and immunoglobulin M (117 mg/dl) [5].

A CT scan in September 13, 2022 showed minimal left pleural effusion, a small consolidation with atelectasis bands in the lung, small amount of fluid in the pelvis, an enlarged liver (19.1 cm) with no focal lesion, multiple scattered cystic lesions in the pancreas seen and advice to do EUS with possible FNA, and signs of chronic inflammation in the small and large bowel wall (Tables 1-5).

Unit	Normal result	The result	Test
%	(-)	0.3	Platelet crit
k/ul	(-)	0.8	Monocytes
k/ul	(-)	8.3	Neutrophils granulocytes
k/ul	(4.6-11)	*12.5	White blood cells
%L	(37.0-92.0)	66.3	Neutrophils granulocytes %
m/ul	(-)	23.7	Lymphocytes %
g/dl	(4.69-6.13)	*3.96	Red Blood Cells (RBC)
%	(13.5-17)	*11.1	Haemoglobin (HGB)
Fl	(43.5-53.7)	*32.9	Haematocrit (HCT)
Pg	(80-100)	83.1	Mean Cell Volume (MCV)
	(27-31.2)	28	Mean Cell Haemoglobin (MCH)

Table 1. Hematology.

Unit	Normal result	The result	Test
Mg/dl	(74-110)	76	Fasting Bliid Sugar (FBS)
Mg/dl	(0-0.30)	0.1	Bilirubin, direct

u/l	(0-41)	25	Alanine transaminase ALT (GPT)
Null	(0-50)	15	Aspartate aminotransferase AST (GOT)
g/dl	(-)	3.1	Albumin
	(3.8-5.4)		Child
	(3.5-5)		Adult
u/l	(0-190)	NA	Creatine Kinase total (CK-total)
Mg/dl	(0.7-1.2)	*0.59	Creatinine, serum
Null	(6-20)	16	Blood Urea Nitrogen (BUN)
g/dl	(6.6-8.7)	*6.2	Protein total
u/l	(40-130)	78	Alkaline phosphatase
	(-270)		Adults, up to
	(-800)		Children up to
Mg/dl	(0-150)	105	Triglyceride
Null	(207-414)	261	Lactate Dehydrogenase (LDH)
Ug/dl	(59-158)	*26	Iron, total serum
Mg/dl	(0-1.2)	0.2	Bilirubin total
Mg/dl	(8.6-10)	*8.1	Calcium serum
Mg/dl	(0-130)	93	LDL-cholesterol
u/l	(8-61)	26	Gamma Glutamyl Transferase (GGT)
Mg/dl	(1.6-2.6)	1.94	Magnesium serum
null	(250-425)	*226	Total Iron Binding Capacity (TIBC)
ng/ml	(21.81-274.66)	215.35	Ferritin

Table 2. Clinical chemistry.

Unit	Normal results	The result	Test
Mg/dl	(90-450)	*487	Immunoglobulin A Gen .2 (IGA)
Mg/dl	(800-1800)	981	Immunoglobulin G Gen .2 (IGG)
Mg/dl	(60-280)	117	Immunoglobulin M Gen .2 (IGM)
Ug/g	(-)	Positive 93.9	Calprotectin

Table 3. Immunology.

Unit	Normal results	The result	Test
ng/ml	(0-15)	3.14	Alpha Fetoprotein (AFP)
Ng/ml	(0-5)	1.73	Carcinoembryonic Antigen (CEA)
u/ml	(0-37)	*44.98	CA 19-9

Table 4. Tumer markers.

Unit	Normal results	The result	Test
Ng/dl	(0.58-1.59)	NA	Triiodothyronine total (T3 total)

Ng/dl	(1.71-3.71)	2.94	Triiodothyronine free (T3 free)
Mlu/ml	(0.35-4.94)	1.7821	Thyroid stimulating hormone (hTSH)
Pg/ml	(15-68)	42.8	Parathyroid hormone (PTH)

Table 5. Hormones.

Results and Discussion

Enteritis is an inflammation of the small intestine. Infections caused by viruses or bacteria, as well as radiation exposure, are the most prevalent causes. The stomach (gastroenteritis) and the large intestine (enterocolitis) are additional areas where enteritis can manifest. Infection-induced enteritis is frequently associated with gastroenteritis. Acute enteritis develops quickly and often lasts only a few days. Less commonly, a chronic disease, on the other hand, is more likely to induce persistent enteritis. Gastroenteritis is a relatively prevalent condition. Bacterial gastroenteritis is uncommon compared to viral gastroenteritis [6]. The classic presentation of enteritis might appear anywhere between a few hours and a few days following infection. Among the symptoms is diarrhea, nausea and vomiting, loss of appetite, abdominal discomfort and pain, hematochezia, or mucus-like discharge from the rectum, fever. Other presentations are related to the complication or effects of chronic enteritis for instance: Anemia, chronic diarrhea that increase the potential of dehydration, since dehydration can be especially dangerous for newborns and young children, abdominal cramps, abdominal distention, Partial obstruction of the small bowel, fatigue, lethargy. Differential diagnoses include inflammatory bowel disease, celiac disease, lactose intolerance, and Whipple disease. Diagnosis is usually based on the patient’s symptoms, medical history and a physical examination. Healthcare physician could occasionally order tests to determine the source of enteritis. They could, for instance, test a sample of patient’s feces in a laboratory to determine the type of the infection. Other diagnostic measures include X-rays or other photos of the small intestine if they are unsure of the reason or if they need further information. Tissue samples and pictures can both be obtained during an upper endoscopy examination. After that, the tissue samples may be examined to learn more about what’s happening in patient’s small intestine. Using of advanced molecular techniques are the only way that *Stenotrophomonas maltophilia* could be identified as the causative bacterial pathogen colonizing the small bowel. In our case we here report about a patient who is complaining of abdominal pain accompanied by long lasting diarrhea, after he undergoes several examinations, ulcers shown in many areas in the large colon and partial of small colon as a result of colonization with *Stenotrophomonas maltophilia*, which considered a rare and less frequent case than gastroenteritis also less frequent than acute enteritis besides the kind of bacterial type that involve is uncommon. Management of choice of chronic enteritis is mainly based on the management of symptoms is the main goal of enteritis treatment. Most of the time, rest and rehydration sufficient. Your body often fights infection on its own if that is the reason. On rare occasions, a bacterial illness could last longer than normal, in which case your doctor would advise taking antibiotics. In our case we treated the patient as Crohn’s disease and started on Imuran, then steroid 15 mg.

Conclusion

In conclusion, being infected by *Stenotrophomonas maltophilia* the facultative pathogenic bacteria is something dangerous and should be treated immediately with the proper medication and technique due to its consequence complication the patient faces if it’s not diagnosed early. As we have mentioned before, this type of bacteria is uncommon to face as a cause of chronic enteritis which is challenging disease to treat and to control. Through this case the patient suffers for several months of multiple signs and symptoms that indicated to abnormality in the GI tract, and a lot of changes have been appeared after medical examinations. However, the right diagnosis done after a period of time which is not short enough to consider it quick decision, which emphasize the importance of being able to diagnose this type of bacteria with improved techniques should be adopted by Palestinian labs and hospitals. Future enhancement must be applied in aim to provide the proper healthcare and to reduce the frequency of complicated health status of chronic enteritis cases as a result of *S. maltophilia*.

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