News

SHISHUDEEP Feb '21 MULTI-SPECIALITY HOSPITAL

From:Dr.Jyotish Patel

Fellow clinicians,

I am happy to present Feb 21 newsletter on behalf of *Shishudeep Multi Speciality Hospital*.

Medical science becomes more interesting when we judge, manage case correctly and outcome is as per expectation, especially in the Era of "Evidence based practice."

Evidence is anything that can be used to prove the diagnosis or to approve modality of treatment with its components."

This is an attempt to share scientific information which we managed successfully.

Case of Cholangitis presented with E Coli Septicemia in Sickle cell disease



Cholangitis is a term used for bacterial infection of biliary tree. Bile produced by liver is drained to intestine by biliary tree. Bile is stored in gall bladder and released to intestine as per need. Bile is always sterile, but stagnation can result in bacterial infection of bile and biliary tree. The most common reason is obstruction due to gall stones which is luminal. These stones are of three types 1. Cholesterol stone (70% content is cholesterol) 2. Bilirubin pigment stone (Cholesterol content less than 30%) 3. Mixed stone.

Red blood cell life span is 120 days. Daily 1% red cell die, and they are replaced with new red cells (Reticulocyte count 1%). Lysis of these red cell produce Bilirubin which gets conjugated in hepatocyte, becomes water soluble and is excreted from body through urine as urobilinogen & through stool as stercobilinogen. Normal S Bilirubin is: Total-03 -1.2mg% Direct-0.3mg% Indirect-0.7mg%.

When RBCs lysis is chronic due to congenital reason like Sickle cell anemia or episodic like Malaria there is chronic or transient rise in Unconjugated (Indirect) Serum Bilirubin respectively. This is water insoluble and forms precipitate with calcium, this Calcium bilirubinate may then crystallize from the solution and eventually form stones.

In SCD, red cell life span shortens to 20-40 days which results in elevated Indirect Serum Bilirubin level throughout life. Due to this reason all cases of SCD develop gall stones. Usually such gall stones are asymptomatic and diagnosed during ultrasonography. When gall stones are stuck up in biliary tree, they become symptomatic. Pain in right upper abdomen is most common with deep jaundice in eyes. If they develop bacterial infection they have fever along with.

In 1877, Charcot described cholangitis as a triad of findings of right upper quadrant (RUQ) pain, fever, and jaundice. A biliary system that is colonized by bacteria but is unobstructed, typically does not result in cholangitis. It is believed that biliary obstruction diminishes host antibacterial defences, causes immune dysfunction, and subsequently increases small bowel bacterial colonization. Although the exact mechanism is unclear, it is believed that bacteria gain access to the biliary tree by retrograde ascent from the duodenum or from portal venous blood. History of ERCP procedure, Cholecystectomy increases risk of cholangitis.

With this background we report a 32 years male case of Sickle cell disease came with high grade fever with rigors, pain in upper abdomen, deep yellow eyes. His investigations are listed in table. He was admitted in ICU and managed. Stent was put and Cholecystectomy was done in 2014.

Challenge in this case was stent in situ since 5 years and biliary tract obstruction due to CBD stones. He was in immediate need of ERCP to remove long standing stent and simultaneous removal of CBD stones. His clinical condition was critical making surgery risky. He was running high fever. Investigations suggesting bacterial infection were TLC- 36820/cmm, DC- Neutrophil 85% CRP-222.22mg%. CT scan abdomen findings a. Intra hepatic biliary radicles dilated with calculi b. CBD 16.5 mm(dilated) with multiple stones, sludge & stent in situ c. pancreatic duct shows stent with pancreatic divisum (congenital anomaly of pancreatic duct). Total S Bilirubin 22.5mg% D-14.1 ID-8.4 SGPT-118 SGOT-160. Clinical, laboratory & CT scan report diagnosis of Cholangitis with CBD stones with Septicaemia in known case of Sickle cell disease was made. Blood was sent before he was given antibiotics. A team of doctors: Senior surgeon Dr.

| Date | 03/02/21 | 04/02/21 | 05/02/21 | 05/02/21 |
|---------------------|----------|----------|----------|----------|
| | | | | |
| Hemoglobin | 9.1 | 8 | 7.2 | 8.5 |
| RBC Count | 3.55 | 3.15 | 2.91 | 3.43 |
| WBC Count | 36820 | 19010 | 12110 | 14460 |
| Platelet Count | 558000 | 433000 | 432000 | 430000 |
| Hematocrit (PCV) | 26.2 | 22.6 | 20.8 | 24.9 |
| НСНС | 35 | 35 | 35 | 34 |
| MCH | 26 | 25 | 25 | 25 |
| MCV | 74 | 72 | 71 | 73 |
| RDW | 14.2 | 13.3 | 13.2 | 14 |
| DIFF WBC Count | | | | |
| Band Form | 0 | 0 | 0 | 0 |
| Neutrophils | 85 | 78 | 70 | 72 |
| Lymphocytes | 8 | 15 | 20 | 21 |
| Eosinophils | 1 | 1 | 2 | 1 |
| Monocytes | 6 | 6 | 8 | 6 |
| Basophils | 0 | 0 | 0 | 0 |



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Kishor Doshi, Intensivist Dr. Marmik Patel, Pathomicrobiologist Dr. Bhargav Kaptan & Sickle cell expert Dr. Jyotish Patel decided treatment plan after detailed discussion of a case. Conservative approach was preferred looking at morbid status of a case. He was put on Piperacillin-Tazobactam with Amikacin and Metronidazole with IV fluids. He had constant fever on first 2 days which became intermittent on day 3. Blood culture was sent on day 1 before giving antibiotics. On day 2 his Bilirubin level started coming down. Urine output was satisfactory but fever was persistent. On day 3 his blood culture report came positive for E Coli.

Ampicillin, Amoxycillin, Cephalosporin were resistant. Imipenem, Meropenem, Amikacin, Gentamycin, Ciprofloxacin, Tigecycline, Colistin, Trimethoprim/Sulphamethoxazole were sensitive. This patient received Amikacin from Day 1 which was found to be sensitive antibiotic in Blood C/S. The serum bilirubin level progressively declined which suggest some drain of bile from the side of gall stones in CBD. Mucosal Oedema due to cholangitis decreased resulting in fall in S Bilirubin level as shown in Table 2. From 22.5mg% it declined

| SERUM BILIRUBIN | | | | | | |
|------------------|----------|----------|----------|--|--|--|
| Date | 03/02/21 | 04/02/21 | 05/02/21 | | | |
| Total Bilirubin | 22.5 | 13 | 7.4 | | | |
| Direct Bilirubin | 14.1 | 9.5 | 5.6 | | | |
| Indirect | | | | | | |
| Bilirubin | 8.4 | 3.5 | 1.8 | | | |
| SGPT | 118 | 104 | 56 | | | |
| SGOT | 160 | 92 | 53 | | | |
| CRP | | | | | | |
| Date | 03/02/21 | 05/02/21 | | | | |
| | | | | | | |
| | 222.22 | 163.95 | | | | |
| CRP Titre | mg/l | mg/l | | | | |

221135, 229857 · Mo. 90167 91885 **M SQUARE PATHOLOGY LAB** Ē BEHIND SARDAR HOSPITAL SHISHUDEEP HOSPITAL Microbiology Chart Report me: CHAPANERI, VANI M Patient ID: VT08/06/02/202 Physician: DR. JYOTISH PATEL Isolate Number: ab ID: VT08/06/02/2021 m Quantity: d Organism : Enterobacter cloacae complex llected: Feb 5, 202 Needs Clinical consolation. Analysis Time: 4.83 hours Statu Enterobacter cloacae complex ted Organi 06276344535 ID Analysis Messages Analysis Time: 9.72 hours Antimicrobial MIC Interpreta MIC ced drug *= AES modifie AES Findings

to 7.4mg%. CRP was 222.22mg/l which also declined to 163.95mg/l. Taking into consideration clinical improvement and need to clear E Coli septicaemia. On Day 3 his Hb declined from 9.1gm% Day 1 to 7.2gm% day 3, a fall of 1.9gm%. He required immediate blood transfusion to compensate fall. These fall is due to enhanced haemolysis in septicaemia.

With planned medical management he showed sustained management. He required ICU stay for 3 days and then shifted to ward. On completion of 7th day repeat Blood C/S was sent which was negative. Patient was discharged on 9th day with following advice

- 1. FU after 5 days
- 2. Removal of stent in due course
- 3. To continue with regular treatment
- A team work with constant watch on clinical & lab investigation was a great help.
- Daily discussion was mandatory.
- Evidence-Clinical & Lab-were keys in managing case successfully.

DISCUSSION

- 1. Why gall stones after cholecystectomy?
- 2. Was there a chance to do immediate surgery?
- 3. What about doing regular cholecystectomy in case of Gall stones and SCD?

FURTHER READING

1.

Muroni M, Loi V, Lionnet F, Girot R, Houry S. Prophylactic laparoscopic cholecystectomy in adult sickle cell disease patients with cholelithiasis: A prospective cohort study. Int J Surg. 2015 Oct;22:62-6. doi: 10.1016/j.ijsu.2015.07.708. Epub 2015 Aug 14. PMID: 26278661.

2.

Amoako MO, Casella JF, Strouse JJ. High rates of recurrent biliary tract obstruction in children with sickle cell disease. Pediatr Blood Cancer. 2013 Apr;60(4):650-2. doi: 10.1002/pbc.24413. Epub 2012 Dec 19. PMID: 23255346; PMCID: PMC3977003.



સમાજની આરોગ્યલક્ષી સંભાળ માટેનો વિનમ્ર પ્રચાસ

અમારો ઉદ્દેશ્ચઃ ઉત્તમ સ્વાસ્થ્ય, શ્રેષ્ઠ સુવિધાઓ

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