

Research Article

CHOICES IN FRONT OF FORMER 22-WEEKER WITH PERSISTENT CANDIDEMIA FOR 38 DAYS

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ARTICLE INFO

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Key words: Candidemia, Premature infants . Former 22-weeker, Thrombocytopenia, C. parasilopsis, Inferior Vena Cava,Thrombus



DOI:<http://dx.doi.org/10.15520/ijmhs.2016.vol6.iss5.133>

ABSTRACT

Candida infection is common and fatal in premature infants especially when it is persistent candidemia. It is very important to treat the primary source/focus of candida infection. Sometimes it becomes hard in clinical practice to do so, which causes a lot of morbidity and mortality to infants with this condition. The author's report a former 22-weeker girl who developed the thrombocytopenia and increased oxygen demand during the NICU stay and blood was cultured which came positive for C. parasilopsis. Culture remained positive for C. parasilopsis in spite of giving appropriate antifungal due to infected thrombus in Inferior Vena Cava (IVC). We had to consider fragility and morbidities of the former 22-weeker into account while Managing the infected thrombus. The baby survived even with maximum number of reported days persistent candidemia by achieving negative blood culture after some time.

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INTRODUCTION

Persistent candidemia is fatal. It is sometimes possible even with appropriate antifungals. Correct approach and management can still save these kids. The authors report a case of persistent candidemia due to C. parasilopsis in former 22-weeker who survived even in extreme situation of morbidities.

Case Report

A 22w2d baby girl with apgar 4, 7, 8 (at 1, 5, 10 minutes), blood group O+ and birth weight of 483 grams was born to a G4P1021 now G4P1122 African American mother who have had unknown duration of rupture so possible PPRM. The mother was GBS unknown but no treatment was given before delivery as presented late to L&D triage with complaint of abdominal cramping and pelvic pressure with brown vaginal discharge. Patient went into triage bathroom and began to deliver her fetus. Babies initial arterial blood gas showed pH;7.29, pCO₂;41.0, pO₂;38, Saturation ;65.9, Base Excess;-6.3, HCO₃;19. Baby's physical exam was normal except multiple bruises on body.

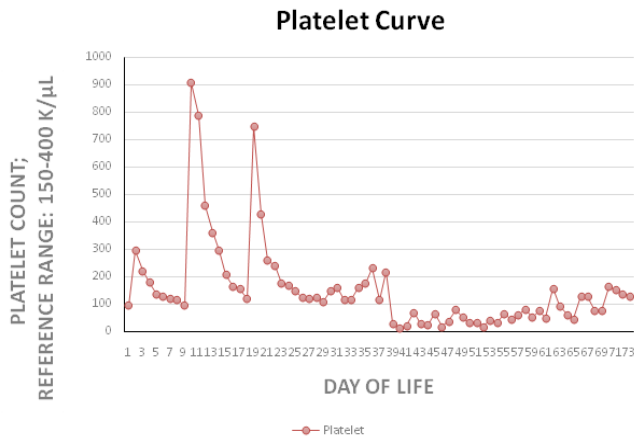
Baby required resuscitation at L & D. Baby was started on high dose ampicillin, cefotaxime and zocyn as delivered in triage bathroom. Fluconazole prophylactic dose was started. Baby course in NICU was pretty tough as he

remained NPO/on TPN for 70 days, developed Grade 4 IVH (DOL 2), bilateral pneumothorax (DOL 3) and two SBP (DOL 8 & 18) requiring Ventricular Reservoir, 126 doses of hydrocortisone, multiple intubation, two chest tubes, 2 abdominal drains and finally abdominal double barrel stoma by ileostomy on DOL 37. Baby was on ventilator for 66 days and with PICC line from DOL 14 for 32 days (i.e DOL 45).

On DOL 43 patient develops worsening thrombocytopenia [Graph 1] and increased oxygen demand. Blood culture came positive for pan sensitive C. parasilopsis and remained positive from DOL 43 to DOL 81 even after treatment with lipo amphotericin B, conventional amphotericin, micofungin and fluconazole (therapeutic) according to current treatment guidelines. We slowly incremented the dose of antifungals to their maximum therapeutic dose. During this time we did the eye exam, cardiac ECHO, USG abdomen, skeletal survey, CT abdomen to find the focus of candidemia.

On DOL 67 Doppler of IVC showed elongated but stable partially occlusive echogenic thrombus of subhepatic IVC extending into right renal vein at iliac bifurcation and to right common iliac. We consulted both the surgery and hematology for further management of this infected

thrombus. As this extreme premature baby (corrected 32 weeks) has had multiple abdominal surgeries and Grade 4 IVH both surgery and anticoagulants as the treatment options were not suitable. Other view of not giving anticoagulant was that the thrombus was stable/calcified. We continued the current treatment with the maximum dose of antifungals from DOL 55 to DOL 81. Baby became negative to culture on DOL 81 and remained negative till NICU discharge.



Graph 1. Platelet counts during NICU stay.

DISCUSSION

Candida infection happens in 1.6-9 % very low birth weight (VLBW) babies and in 10-24% extremely low birth weight (ELBW) babies [5]. *C. parapsilosis* contributes 35 % of all the Candida infections [4]. The common risk factors for this infection are prematurity, postnatal steroids, intubation, high duration on ventilator, broad spectrum antibiotic (Cephalosporin, carbapenems), abdominal surgery, procedures needing skin penetration and NPO/TPN [5,6,7]. The baby we report here unfortunately has had all the above mentioned risk factors for Candida infection.

As in any other infection most common way of presentation of Candida infection is increase in apnea and/or bradycardia (~63%), increase in oxygen requirement (~56%), increase in requirement of assisted ventilation (~52%) or thrombocytopenia. This baby also developed increase in oxygen requirement and thrombocytopenia in NICU which made us to look for the fungal culture.

Mortality in the Candidal infection is 21-32% in VLBW babies and 34% in ELBW babies [5]. Mortality mostly depends on the site of infection and number of sites [5]. It is very important to find out the source/focus of candidemia which is mostly done with the help of Eye exam, cardiac ECHO, cranial USG, PICC line site USG, abdominal USG/CT and IVC Doppler. Source/focus of infection is extremely important to find and treat. Infected thrombus in IVC as we found in the baby as a source/focus in Doppler is very important to treat or dissolve as otherwise it will keep on releasing the Candida in blood.

When even after the maximum dose antifungals in pan sensitive culture the culture remains positive for Candida as in our case then we are left with only 4 options. One is to add/change antifungals [1,8,9], second is to do abdominal surgery [1,2,3] to remove the thrombus, third, which is to dissolve the thrombus by means of anticoagulants [1,10], or forth which is to continue the

antifungal at their maximum dose till the thrombus calcifies or dissolve. Anticoagulants should not be used in calcified thrombus [10] as it should not be the cause of candidemia. In the case we mention, the persistent candidemia cause/source remain unknown as the thrombus we found was calcified. Due to lack of literature over management of septic thrombus in this type of situation, we continued the typical antifungal treatment at its maximum dose for total of 26 days. We kept on checking the culture which became negative eventually. By means of this case we want to report that in extremely premature baby with lots of morbidity, non-aggressive management and watching the culture can also lead to good outcome.

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