

Recognizing biliary obstruction

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The article “ Yellow Bird of Jaundice: Recognizing Biliary Obstruction” discusses a commonly occurring disorder biliary obstruction, its underlying etiology, basic patho-physiology, diagnostic tests and available treatment options. There are several reasons for which I chose this article. Not only have the authors presented a well built case study for simple analysis of the disease but have also explored the fundamental causative factors along with associated physical and clinical signs and symptoms. Clinical diagnosis with the help of lab review tests is explored. Also, numerous treatment choices with possible outcomes and suggested nursing interventions based on research evidence are described. Thus, this article also satisfies the PICO model for evidence based nursing which represents the problem identification of the patient, interventions suggested, contrasting treatment options and possible outcomes. This essay presents the summary of chosen paper, consideration of research findings of authors, its relevance to clinical practice and the possible benefits of their application. This article focuses on a frequently occurring disorder biliary obstruction; which affects significant number of people in a population with an estimated rate of 5 per 1000 people. Biliary obstruction or cholestasis is caused by disruption in the flow of bile from liver (where it is synthesized as exocrine secretion) to duodenum (where it assimilates fats and bilirubin). Bilirubin is formed as a by-product of hemoglobin breakdown in spleen and its metabolism is dependent upon uptake, storage, conjugation and secretion. The conversion of un-conjugated bilirubin to water soluble conjugated bilirubin is carried out by hepatocytes in liver and thus secreted into bile. From where it travels in intestine and is finally eliminated in feces in the form of urobilinogens. Excessive amounts of

conjugated bilirubin in urine and blood causes hyperbilirubinemia which is characterized by icterus or jaundice. Clinical detection of jaundice occurs at serum bilirubin levels of least 3mg/dL. 3 while normal levels range below 1mg/dL. The basic etiologies for cholestasis may occur due to factors like biliary strictures or by metabolic causes like hepatotoxicity. Also, it can occur due to intra-hepatic or extra-hepatic reasons. Interruption in bile flow at hepatocyte or biliary canal membrane level is known as intrahepatic cholestasis and generally caused by hepatitis, cirrhosis or primary biliary cirrhosis. Restricted bile flow at biliary ducts system results in extra-hepatic cholestasis and can either be intra-ductal or extra-ductal. Generally, gallstones are the major cause of intra-ductal obstruction along with biliary strictures, dyskinesia, primary sclerosing cholangitis and neoplasms. Reasons for extra-ductal obstruction include malignant or benign neoplasms, tumors or pancreatitis (Habib and Saunders, 2011). Physical signs for this disease may include pain, weight loss, pruritus, anemia, malignancy, diarrhea, fever, GI bleeding, darker colored urine, pale stools, jaundice, diabetes, excoriations etc. The diagnosis must be based upon blood liver function test and imaging studies including trans-abdominal ultrasonography, endoscopic ultrasound (EUS), computed tomography (CT), magnetic resonance cholangiopancreatography (MRCP) and endoscopic retrograde cholangiopancreatography (ERCP). Endoscopic ultrasound is most accurate in diagnosis however; trans-abdominal ultrasonography is considered the initial evaluation choice due to its sensitivity and inexpensiveness. CT is used to assess the specific cause and degree of obstruction. MRCP accurately measures the level of obstruction in bile and

pancreatic ducts. ERCP combines endoscopic and radiographic technologies and is considered a standard in diagnosis and therapeutic treatment (Habib and Saunders, 2011). Nursing interventions for patients with biliary obstruction include assessment of physical signs and symptoms, recommending lab screening test and imaging diagnosis and most importantly preparing the patient for endoscopic/surgical procedure. According to Habib and Saunders (2011), the role of nurse is also vital in educating the patient at diagnosis, management and follow-up stages. Explaining the disease process, risk factors for development of disease, signs or symptoms and indicated treatment choices should be discussed by nurse in detail. It is imperative for a nurse to base clinical practice on scientific knowledge and research. Evidence based practice can be defined as the organized process to access, review and incorporate research findings in professional judgment and clinical decisions regarding patient care (Webb, 2010). Evidence based nursing is a relatively new area of interest which focuses on use of available research literature and technology to potentially improve patient care and treatment outcomes. It also helps nurses to incorporate their practical knowledge in decision making process for patient's diagnostic and management (Thompson et al., 2004). With reference to this particular article, the described nursing interventions are thorough and well researched and can be incorporated with evidence into clinical strategy. The article emphasizes that a nurse must conduct physical exam to evaluate any of above mentioned signs and symptoms along with HIV status, recent surgeries, use of medicines, drugs, supplements, alcohol and genetic liver disorders. Diagnosis must be carried out with clinical

history, physical evaluation and lab screening tests. Nursing interventions include reviewing lab results for abnormal LFT's and hepatitis serology. Suggested imaging tests may include trans-abdominal US, EUS, CT, MRCP and ERCP. In clinical settings, a nurse must be able to suggest the best diagnostic options according to the physical presentation of the patient. In case of advanced disease stage, the patient must be advised to proceed with ERCP. However, the need for open surgery depends upon biliary obstruction cause and must be discussed with the patient. Other choice of treatment includes liver transplantation provided a donor is available (Habib and Saunders, 2011). In case of ERCP or surgery, the nurse should assess the vital signs, allergies, medication reactions and medical history. The patient must be informed to refrain from eating and sign consent papers. After the procedure, the authors suggest nurses to be cautious about complications such as pancreatitis, bleeding or cholangitis. Any signs including abdominal pain, nausea, fever, vomiting or bleeding be reported to physician. During the discharge planning, a nurse should explain the patient to report any signs of vomiting, nausea, abdominal pain, neck stiffness or bloody stool etc. Strict prohibition should be imposed on patient for alcohol and painkillers that interrupt normal blood coagulation. Encourage the patient to lose weight and avoid fatty food to avoid the risk for recurrence of disease. In conclusion, biliary obstruction is a commonly occurring disease which is caused by the disruption of bile flow from liver to small intestine where it breaks down fats and bilirubin. Excessive bilirubin levels in blood and urine manifest in the form of jaundice or hyperbilirubinemia. Etiology for biliary obstruction may be intra-hepatic or extra-hepatic. Physical signs and

symptoms include jaundice, bleeding, abdominal pain etc. Diagnosis must be approached by blood testing for serum LFTs. Imaging tests include various forms of ultrasound, MRCP and ERCP. Treatment options include endoscopic surgery and in some cases liver transplants. Nursing intervention is important in assessing signs/symptoms of disease, management, patient education regarding risk factors, process of disease and best indicated treatment option. References: Habib, H. and Saunders, M. (2011). The Yellow Bird: Recognizing Biliary Obstruction. *Nursing* 2011. Vol. 41, No. 10. Lippincott Williams and Wilkins. Pp. 28-35. www.nursing2011.com. Thompson, C, Cullum, N., McCaughan, D., Sheldon, T. and Raynor, P. (2004). Nurses, Information use, and Clinical Decision Making: The Real World Potential for Evidence-Based Decisions in Nursing. *Evidence based Nursing*. Vol. 7, issue, 3: 68-72. www.ebn.bmj.com. Webb, J. (2010). Nursing Research and Evidence Based practice. *Contemporary Nursing: Issues, Trends, and Management*, 5th Ed. Pp. 104-124.