

SURGICAL EXPERIENCE WITH BURST LIVER ABSCESS, CAUSING EMPYMA THORACIC & BRONCHO PLEURAL FISTULA

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Introduction

Liver abscess has been recognized since Hippocrates (Circa 400 B.C.) who speculated that prognosis is related to the type of fluid within the lesion.(1)

In the early 19th century, Bright suggested that amoebae might be contributed to the formation of hepatic abscess.(2) Koch, in 1983 AD described amoebae in the wall of a hepatic abscess.

Fitz & Dieulafoy both emphasized the importance of intra abdominal (Bacterial) sources of infection in the pathogenesis of Liver Abscess.(3)

Pyogenic liver abscess represent approximately 80% of cases in USA. Amoebae are the primary Cause of 10% and fungi & other in 10%. The diagnosis of hepatic abscess is challenging because Clinical signs usually not specific. Early differentiation between pyogenic & amoebic Liver abscess may be even difficult because of the similarity in Signs, symptoms, & radiological features.(4)

Both pyogenic and amoebic abscess should be considered lethal unless detected early. The primary symptoms are fever, malaise, chills, anorexia, weight loss, abdominal pain & nausea. Rarely patients with either amoebic or pyogenic abscess are admitted with diffuse peritonitis, empyema, shock or hepatic failure.

The most common findings on plain abdominal or chest radiography are right sided an elevated hemidiaphragm right sided atelectasis of lung, pleural effusion or pneumonia. Occasionally a sub diaphragm air fluid collection is observed with pyogenic abscess or super infection in amoebic abscess.

Correct and early diagnosis of pyogenic versus amoebic abscess is important because treatment are radically different.

The standard treatment of pyogenic abscess remain external drainage and appropriate course of antibiotics.(5) Treatment of uncomplicated amoebic abscess is primarily nonsurgical. Untreated pyogenic Liver Abscess are 95-100% fatal. Death follows rupture, sepsis or both. Spontaneous drainage is most often directed into peritoneal or pleural cavity, usually causing septic shock and death. Rarely an abscess can resolve by spontaneous drainage externally or into intestine. The likelihood of rupture is related to size and location. The larger the size, the more prone the abscess is to rupture.

Survival from pyogenic abscess has improved in recent years with earlier diagnosis and treatment. Moratlity was 80% in 1938 A.D. and over the past decade mortality has decreased to less than 20%.(6)

Effective drainage is accomplished by percutanaous or open surgical method. Factors that should be considered in the selection of method are on availability of expertise, the accessibility of the abscess, the number and size of the abscess and treatment of the under lying condition.

Three approaches are available transpleural, extraperitoneal, transperitoneal.

In amoebic Liver Abscess except when there is rupture or infection, amoebicidal agents are the treatment of choice for hepatic abscess. The best drug is Metronidazole and alternative drugs include emetine dehydroemetine, and chloroquine. If clinical symptoms do not respond within the first 48 hours, peritoneal aspiration or surgical drainage may be considered. Surgical therapy also has a role in suspected rupture, erosion or perforation of an adjacent visera.(7)

Mortality from amoebic Liver Abscess should be less than 25% in the absense of secondary bacterial infection and rupture.

MATERIAL

Shree Birendra Military Hospital is 400 bedded referral hospital, which has facility for all medical & surgical specialities treatment including Cardio-Thoracic Surgery. There were many cases of liver abscess treated in Medical & Surgical Depts. In the study we have included only liver abscess referred with Empyema Thoracic.

During last 3 months of this year 2057 B.S. (2000 AD) There were 3 referral to Cardio-Thoracic unit of Shree Birendra Hospital with Empyema Thoracic following Liver Abscess. 2 cases of pyogenic Liver Abscess and one case of Amoebic Liver Abscess.

Of 2 cases of pyogenic liver abscess one was male and one female. Amoebic Liver Abscess was male. Age range from 25 years to 45 years.

CASE -I**Pyogenic Liver Abscess**

- ✦ 25 years old female had single pyogenic Liver Abscess and burst into Rt. pleural cavity with development of empyema thoracic and Broncho-Pleural Fistula was admitted with respiratory distress on 2057/2/32 in ICU of Shree Birendra Military Hospital.
- ✦ MRI Chest & Abdomen showed single liver abscess communicating with Rt. Pleural Cavity.
- ✦ She had Rt. Thoracostomy tube drainage which was draining air, bile and pus. Pus from pleural fluid showed growth of E. Coli, Bacteria, sensitive to Gentamycin & Taxim. She was given Inj. Gentamycin 60mg IV 8 hourly & Taxim 1gm IV 12 hourly for 2 weeks.
- ✦ After antibiotics treatment and control of infection
- ✦ Rt. Thoracotomy was done on 2057/03/22
- ✦ There was a tear in Rt. hemidiaphragm which was repaired with silk suture. The wall of Liver Abscess was debrided and hemorrhage controlled with coagulation. There were two Broncho-Pleural Fistulae in Rt. Lung which was repaired with protein suture and the Lung was repaired with vicryl suture.
- ✦ Rt. Lung was collapsed with thickened pleural covering which was decorticated. Underlying Lung expansion was satisfactory.
- ✦ Post operative recovery was smooth and Rt. Lung expansion was satisfactory.
- ✦ Patient was discharge from Hospital on 2057/04/29

CASE-II**Pyogenic Liver Abscess**

45 years old male patient had multiple Liver Abscess with Rt. Empyema thoracic was admitted on medical ward on 2057/03/2. MRI Chest & abdomen showed multiple liver abscess with fluid in the Pleural cavity with no communication with liver abscess. Rt. Empyema thoracic was drained with Rt. Thoracostomy tube drainage. Liver Abscess was treated with antibiotics and percutaneous aspiration of Liver Abscess under Ultrasound guidance. Aspiration of pus from liver abscess revealed growth of E. Coli bacteria sensitive to Gentamycin & Riflin. Patient was given Inj. Gentamycin 80mg IV 8 hourly & Inj. Riflin 500mg IV 6 hourly for 2 weeks. Patient had smooth post operative recovery and was discharged on 2057/04/3

CASE-III**Amoebic Liver Abscess.**

A 28 years old male was admitted on 2057/1/27 with ruptured Liver Abscess into Rt. Pleural cavity with massive Rt. Empyema thoracic and respiratory distress. MRI Chest & Abdomen showed single large liver abscess communicating with Rt. Pleural Cavity. Emergency Rt. Thoracostomy tube drainage was done and about 5 liters of Anchove souce type pus was drained. Pus from Empyema on microscopic examination showed trophozoite of E. histolytica. And anti amoebic treatment with Inj. 500mg Metronidazole IV 8 hourly was given for 10 days. Patient had satisfactory recovery with Lung expansion. Patient was discharged on 2057/02/23

*Patient of Burst Liver Abscess
with
Empyema Thoracic & Broncho Pleural Fistula*



Before Operation



After Operation

DISCUSSION:

Liver Abscess both pyogenic and amoebic are still common medical problem in our developing country with poor hygienic condition including Nepal.

Liver Abscess if not detected early and treated with proper Medicine will lead to serious complications such as rupture into Pleural Cavity developing life threatening complication such as Empyema Thoracicum and Broncho-Pleural Fistula. Management of ruptured Liver Abscess with empyema thoracicum is satisfactory with thoracostomy tube drainage and with proper antibiotic in pyogenic and amoebic treatment of amoebic Liver Abscess. Development of more complications with Broncho-Pleural Fistula will need early thoracotomy and repair of Broncho-Pleural Fistula and decortication of thickened pleura and expansion of collapsed Lung. (8,9,10,11)

CONCLUSION:

1. Liver Abscess both pyogenic and amoebic are still common in our community.
2. Early detection of Liver Abscess with Radiology and Ultrasound examination will help in diagnosis and proper medical management.
3. Early pulmonary complication with Empyema thoracicum will respond well with Pleural Aspiration and effective antibiotic in pyogenic and amoebic therapy in amoebic liver abscess.
4. Rupture of Liver Abscess with Empyema thoracicum may respond well with antibiotics, anti amoebic and chest tube drainage only.
5. Further complication leading to Broncho-Pleural Fistula and the diaphragmatic tear will require thoracotomy for repair of Broncho-Pleural Fistula and repair of diaphragmatic tear.
6. Early detection of Liver Abscess with Ultrasound should be encouraged for better & proper management of Liver Abscess for prevention of rupture of Liver Abscess and its complications.

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