Table, Supplemental Digital Content 1. Contribution of Biopsy Findings to Acute Liver Failure Diagnosis and Management

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| --- | --- | --- | --- | --- | --- |
| Year | Pertinent biopsy findings | Contributed to diagnosis | Influenced management | Final diagnosis | Outcome at discharge |
| 2008 | Microvesicular steatosis. Hepatocytes with granular hypereosinophilic cytoplasm. EM: abnormal mitochondria | ++ |  | Mitochondrial disease (POLG1 mutation) | Died |
| 2008 | Centrilobular coagulative necrosis. Severe mixed steatosis.  |  |  | Indeterminate | LTx |
| 2008 | Diffuse medium- and macro-vesicular steatosis. No inflammation.  | ++ |  | Drug toxicity (L-Asparaginase) | Alive native liver |
| 2008 | Parenchymal collapse. Hepatocyte ballooning, microvesicular steatosis and Mallory bodies. +Copper stain. | + | + | Wilson disease | Alive native liver |
| 2008 | Diffuse hepatocellular necrosis and injury. Moderate inflammation.  |  |  | Indeterminate | LTx |
| 2008 | Diffuse hepatocellular injury and necrosis. Mixed steatosis. Mild inflammation.  |  |  | Indeterminate | Alive native liver |
| 2009 | Extensive sinus congestion and hemorrhage with sparing of portal areas | ++ |  | Sinusoidal obstruction syndrome | Alive native liver |
| 2009 | Diffuse hepatocellular damage and microvesicular steatosis. EM: abnormal mitochondria | ++ |  | Mitochondrial disease | Died |
| 2011 | Extensive centrilobular hepatocyte necrosis. | ++ | + | Drug toxicity (acetaminophen) | Alive native liver |
| 2011 | Inflammatory infiltrate. Numerous histiocytes and CD8+ lymphocytes. | ++ | + | HLH  | Alive native liver |
| 2011 | Severe lymphohistiocytic inflammation with numerous CD8+ lymphocytes.  | ++ | ++ | Immune dysregulation | Alive native liver |
| 2011 | Severe hepatocellular damage. Mild inflammation and steatosis.  |  |  | Indeterminate | Alive native liver |
| 2011 | Severe hepatocellular damage. Prominent inflammation. Mild cholestasis.  |  |  | Indeterminate | Alive native liver |
| 2011 | Prominent inflammation with extensive hepatocellular damage and necrosis |  |  | Indeterminate | LTx |
| 2012 | Cirrhosis with collapse and fibrosis. Mild steatosis. Hepatocytes with granular hypereosinophilic cytoplasm. EM: abnormal mitochondria | ++ |  | Mitochondrial disease (DGUOK mutation) | Alive native liver |
| 2013 | Involved by T-cell ALL. Increased histiocytes and CD8+ lymphocytes | ++ | + | ALL with HLH | Alive native liver |
| 2013 | Prominent inflammation and hepatocellular damage | ++ | ++ | Immune dysregulation | LTx |
| 2014 | Diffuse lymphoplasmacytic portal inflammation with interface, extensive necrosis, and fibrosis | ++ | ++ | Autoimmune hepatitis | Alive native liver |
| 2014 | Marked parenchymal necrosis involving the central areas |  |  | Indeterminate | Alive native liver |
| 2014 | Diffuse hepatocellular swelling with abundant glycogen. Prominent portal fibrosis.  |  |  | Indeterminate | Alive native liver |
| 2014 | Diffuse pericellular fibrosis with collapse. Prominent cholestasis and inflammation. |  |  | Indeterminate | Alive native liver |
| 2015 | Marked centrilobular necrosis. Mild portal inflammation.  | ++ | + | Drug toxicity (acetaminophen) | Alive native liver |
| 2015 | Cirrhosis. Variable hepatocyte ballooning, mild cholestasis.  |  |  | Indeterminate | Alive native liver |
| 2015 | Parenchymal necrosis and prominent centrilobular hepatocyte dropout.  | ++ |  | Ischemic injury | Died |
| 2015 | Moderate inflammation and diffuse Kupffer cell hyperplasia.  | ++ | ++ | Immune dysregulation | Alive native liver |
| 2016 | Severe diffuse inflammation and necrosis, +EBER stain.  | ++ |  | Acute EBV infection | Died |

Abbreviations: EM, electron microscopy; LTx, liver transplantation; HLH, hemophagocytic lymphohistiocytosis; ALL, acute lymphoblastic leukemia; EBER, Epstein-Barr Virus-encoded RNA; EBV, Epstein-Barr Virus