

# Contents

## **Introduction: Biliary Reconstruction and Biliary Complications; Normal Cholangiograms Following Orthotopic Liver Transplantation**

|   |   |
|---|---|
| Short Overview.....   | 2 |
| Case 1 Normal Postoperative Cholangiogram Following<br>OLT.....   | 4 |
| Case 2 Normal Postoperative Cholangiogram with a<br>Certain Degree of Mismatch Between Common<br>Bile Ducts of Donor and Recipient..... | 4 |
| Case 3 Regular Postoperative Anastomosis of the<br>Common Bile Duct of Donor and Recipient.....   | 6 |
| Case 4 Normal Cholangiogram After Transplantation<br>of a Reduced-Size Liver Graft.....   | 6 |

## **Biliary Leakage**

|  |    |
|--|----|
| Short Overview.....  | 10 |
| Case 5 Biliary Leakage After Displacement of a Drainage<br>Catheter and Endoscopic Treatment with<br>Endoprostheses.....               | 12 |
| Case 6 Biliary Leakage and Retention of Part of a<br>Disrupted T-Tube; Situation After Endoscopic<br>Removal and Surgical Repair ..... | 16 |
| Case 7 Biliary Leakage at the Site of Bile Duct<br>Anastomosis .....   | 18 |

|        |   |    |
|--------|---|----|
| Case 8 | Biliary Leakage and Stenosis at the Site of Bile Duct Anastomosis ..... | 18 |
|--------|---|----|

### **Bile Duct Redundancy**

|                      |  |    |
|----------------------|--|----|
| Short Overview ..... | 22   |    |
| Case 9               | Bile Duct Redundancy with Unimpaired Bile Flow .....   | 22 |
| Case 10              | Bile Duct Redundancy with Impaired Bile Flow and Subsequent Bacterial Cholangitis; Treatment by Insertion of a Metal Stent ..... | 24 |

### **Sludge in the Biliary System**

|                      |   |    |
|----------------------|---|----|
| Short Overview ..... | 28  |    |
| Case 11              | Sludge in the Biliary System and Treatment by Balloon Extraction After Sphincterotomy.... | 28 |

### **Stenosis at the Site of Bile Duct Anastomosis**

|                      |   |    |
|----------------------|---|----|
| Short Overview ..... | 33  |    |
| Case 12              | Stenosis at the Site of Bile Duct Anastomosis; Endoscopic Treatment by Dilation and Placement of a Metal Stent .....                  | 34 |
| Case 13              | Stenosis at Bile Duct Anastomosis; Treatment by Endoscopic Dilation .....   | 38 |
| Case 14              | Stenosis at the Site of Bile Duct Anastomosis; Endoscopic Treatment by Dilation and Preliminary Insertion of a Plastic Endoprosthesis | 40 |

**Bile Duct Stenosis Due to Local Ischemia**

|   |    |
|---|----|
| Short Overview.....   | 44 |
| Case 15 Necrosis of the Common Bile Duct and<br>Alteration of the Intrahepatic Ducts..... | 44 |
| Case 16 Sequelae of Ischemia of the Common Bile Duct<br>of the Grafted Liver .....        | 46 |
| Case 17 Stenoses of the Main Hepatic Bile Ducts;<br>Endoscopic Treatment .....            | 48 |
| Case 18 Stenoses of All Major Bile Ducts Following<br>Ischemia .....                      | 52 |

**Ischemic-Type Lesions Following Long Cold Ischemia**

|  |    |
|--|----|
| Short Overview.....  | 57 |
| Case 19 Alterations of the Intra- and Extrahepatic<br>Biliary System After OLT; Follow-Up Studies ...                          | 58 |
| Case 20 Severe Alterations of the Intra- and Extrahepatic<br>Biliary System; Endoscopic Treatment and<br>Follow-Up Films ..... | 62 |
| Case 21 Progressive Sequelae from Prolonged Cold<br>Ischemia .....   | 66 |
| Case 22 Course of Ischemic-Type Biliary Lesions .....  | 68 |

**Bile Duct Alterations After Occlusion of the Hepatic Artery**

|   |    |
|---|----|
| Short Overview.....   | 73 |
| Case 23 T-Tube Cholangiogram After Occlusion<br>of the Hepatic Artery ..... | 74 |

|         |  |    |
|---------|--|----|
| Case 24 | T-Tube Cholangiogram After OLT and Cholangiogram After Occlusion of the Hepatic Artery.....  | 78 |
| Case 25 | Cholangiogram After Occlusion of the Hepatic Artery.....   | 78 |
| Case 26 | Cholangiogram After Arterial Malperfusion, Stenosis of the Hepatic Artery, Progression of Bile Duct Alterations, and Percutaneous Treatment; Results of Therapy..... | 80 |

### **Bile Ducts in Chronic Rejection**

|                      |  |    |
|----------------------|--|----|
| Short Overview ..... | 87   |    |
| Case 27              | Cholangiogram from a Patient with Chronic Rejection of the Graft .....                           | 88 |
| Case 28              | Initial Alterations of the Hepatic Biliary System in Chronic Rejection; Progression on Follow-Up | 90 |
| Case 29              | Course of Alterations of the Biliary System in Chronic Rejection .....                           | 92 |

### **Disturbed Function of the Sphincter of Oddi**

|                      |   |    |
|----------------------|---|----|
| Short Overview ..... | 96  |    |
| Case 30              | Stone in the Recipient's Dilated Common Bile Duct .....                           | 96 |
| Case 31              | Dilated Common Duct in the Recipient and Stenoses of the Main Hepatic Ducts ..... | 98 |

|                 |     |
|-----------------|-----|
| References..... | 101 |
|-----------------|-----|