Department of Clinical Haematology
Oxford BMT Programme

Management of Hepatitis B and C in Allogeneic & Autologous Blood and Marrow Transplant Recipients

All donors and recipients must be routinely screened pre-transplant for:

- hepatitis B surface antigen (HBsAg)
- anti-hepatitis B surface and core antibodies (anti-HBs and anti-HBc).
- anti-hepatitis C antibodies

Consider hepatitis B immunisation of all bone marrow recipients.

Donor results[1].

HBsAg positive – donation contraindicated.

HBsAg negative, anti-HBc positive with no other markers, ie anti-HBs and anti-HBe NOT detected
Consider false positive reactivity, or passive antibody transfer (eg via blood products)
If possible, repeat full hepatitis B panel to confirm (can be seen post-acute infection and prior to development of other markers). Discuss with Dr Jeffery or Dr Andersson.
Check HBV DNA

HBV DNA not detected – donation permitted for a life-preserving transplant.
HBV DNA detected – donation contraindicated

HBsAg negative and anti-HBc positive, anti-HBs detected but < 100 IU/L and anti-HBe detected
Check HBV DNA

HBV DNA not detected – donation permitted for a life-preserving transplant.
HBV DNA detected – donation contraindicated

HBsAg negative and anti-HBc positive and Anti-HBs > 100 IU/L - Donation permitted

Hepatitis C antibody positive – relative contraindication to donation.
Check HCV RNA - confirmed HCV RNA detection indicates current infection.
Effective anti-viral therapy resulting in sustained virological response for HCV is now available.
HCV infection in the potential donor does not amount to an absolute contra-indication to donation of material for life-preserving transplantation, however the net benefit of transplantation must be considered against the risk of not receiving that specific transplant. This risk/benefit analysis allows for the potential use of a transplant from a HCV infected donor to a non-infected recipient.

Recipient/autologous patient results[2]

HBsAg positive

Perform HBV DNA and refer to Dr Michael Pavlides or Dr Monique Andersson (viral hepatitis clinic or ward-based referral) or Hepatologist at your local centre pre-transplantation.

- Prophylaxis with Entecavir (first-line) or Tenofovir
- Monitor HBV DNA 3 monthly.
- Start prophylaxis before beginning immunosuppressive therapy. Therapy may need to be continued long-term.
- Tenofovir should be considered in women of child-bearing age, but has additional renal and bone side effects which need consideration.
- Ensure on-going viral hepatitis clinic follow-up.

HBsAg negative, anti-HBc positive recipient

1) HBsAg negative, anti-HBc positive with no other markers, ie anti-HBs and anti-HBe NOT detected

Consider false positive reactivity, or passive antibody transfer (eg via blood products)
Repeat full hepatitis B panel and HBV DNA to confirm (can be seen post-acute infection and prior to development of other markers)
Discuss with Drs Jeffery or Andersson
If prophylaxis to be given, commence before beginning immunosuppressive therapy and continue for a minimum of 6 months after stopping immunosuppressive therapy.

2) See Oxford University Hospitals. Hepatitis B Reactivation Policy when initiating immunosuppression. May 2024

Monitoring of recipients/autologous on anti-viral therapy

- Monitor HBV DNA levels 3 monthly while immunosuppressed.
- HBsAg positive patients
  - should be monitored long-term in a viral hepatitis clinic.
  - This may require local referral if patient is not from Oxfordshire. Anti-viral therapy likely to be long-term.
- HBsAg negative patients
  - monitor HBV DNA levels 3 monthly while immunosuppressed.
  - Discontinue antiviral therapy 6 months after stopping immunosuppressive therapy if remains HBV DNA undetectable and disease in remission.
  - Re-check HBV DNA if ALT becomes abnormal, and 3 monthly for at least 12 months after prophylaxis withdrawal.
- No requirement to routinely refer HBsAg negative patients to viral hepatitis clinic.
- If DNA becomes detectable, discuss with Dr Pavlides or Dr Andersson.

Hepatitis C antibody positive

Hepatitis C RNA testing will be performed routinely as part of confirmatory testing. If RNA detected refer to Dr Michael Pavlidesor Dr Monique Andersson or local Hepatologist (viral hepatitis clinic or ward-based referral). Not a contraindication to bone marrow transplantation but will require follow-up and treatment post transplantation to prevent progression of liver disease. This may require local referral if patient not from Oxfordshire.

References

1. SABTO Microbiological Safety Guidelines Revised March 2020
2. Diagnosis and management of chronic hepatitis B in children, young people and adults. NICE clinical guideline 165. June 2013
3. EASL 2017 Clinical Practice Guidelines on the management of hepatitis B virus infection (European Association for the Study of the Liver)
4. Oxford University Hospitals. Hepatitis B Reactivation Policy when initiating immunosuppression. May 2024

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Version 2

Audit

These processes are subject to OxBMT audit programme.
Audit of monitoring process for patients on prophylactic therapy for HBV planned 2021/22 (hepatology team).

Circulation

NSSG website

Review

Name	Revision	Date	Version	Review date
Dr Katie Jeffery, Consultant Microbiologist	Up date	Oct 2013	3.0	Oct 2015
Dr Katie Jeffery Consultant Microbiologist	Simplification and update	18/11/15	4.0	Nov 2017
Dr Karthik Ramasamy, Consultant Haematologist	Autograft protocol review meeting	Jan 2016	4.1	Nov 2017
Dr Katalin Balassa, BMT Fellow Dr Katie Jeffery, Consultant Microbiologist	Addition of sentence re Hep C antibody positive & donation contraindicated	Apr 2018	4.2	Apr 2020
Dr Katie Jeffery, Consultant Microbiologist	Addition of further guidance on hepatitis C and donation Addition of audit recommendation	Aug 2021	4.3	Aug 2023

Prof Katie Jeffery, Consultant Microbiologist	Substitution of Entecavir for Lamivudine. Change in frequency and duration of HBV DNA monitoring.	June 2022	4.4	June 2024
Prof Katie Jeffery, Consultant Microbiologist	Minor changes including alignment with Hepatitis B re-activation guideline, Allograft protocol review meeting	Oct 2024	4.5	Oct 2026