

## ***Capsule summary of NCCN Guidelines for Hodgkin Lymphoma***

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### **Diagnosis:**

1. Excisional biopsy (recommended) or core biopsy.
2. Immunohistochemistry: Classical HL (**CD15<sup>+</sup>, CD30<sup>+</sup>, PAX-5<sup>+</sup>, CD3<sup>-</sup>, CD20<sup>-</sup>, CD45<sup>-</sup>, CD79a<sup>-</sup>**), Nodular lymphocyte-predominant (**CD20<sup>+</sup>, CD45<sup>+</sup>, CD79a<sup>+</sup>, BCL6<sup>+</sup>, PAX-5<sup>+</sup>, CD15<sup>-</sup>, CD30<sup>-</sup>, CD3<sup>-</sup>**).

### **Work up:**

1. CBC with differential, ESR.
2. Comprehensive metabolic panel including LDH and Liver functions.
3. CT, PET-CT, MRI, PET-MRI.
4. Pregnancy test for women in child bearing age.
5. Pulmonary function tests if ABVD or BEACOPP are being used.
6. EF evaluation if doxorubicin-based chemotherapy is indicated.
7. Bone marrow biopsy if there is cytopenias with –ve PET.
8. Pneumococcal, Meningococcal and H-Flu vaccines if splenic radiotherapy is contemplated.
9. HIV, HBV and HCV tests (encouraged).

### **Staging:**

- I. Involvement of a single lymph node region (I) or a localized involvement of a single extra lymphocytic organ or site (I<sub>E</sub>).
- II. Involvement of 2 or more lymph node region on the same side of diaphragm (II) or localized involvement of a single associated extralymphocytic organ or site and its regional lymph node with or without involvement of other regional lymph nodes on the same side of diaphragm (II<sub>E</sub>).
- III. Involvement of lymph node region on both sides of the diaphragm (III) which may be accompanied by localized involvement of an associated extra lymphocytic organ or site (III<sub>E</sub>) or splenic involvement (III<sub>S</sub>) or both (III<sub>E+S</sub>).
- IV. Disseminated (multifocal) involvement of one or more extra lymphocytic organ with or without associated lymph node involvement or isolated extra lymphocytic organ involvement with distant (non-regional) lymph node involvement.

- A For no systemic symptoms present.
- B For presence of systemic symptoms (B symptoms).

**Treatment of Classical HL:**

**Stage IA, IIA: Favorable (no bulky disease, < 3 sites of disease, ESR <50, no E-lesions):**

1. ABVD × 3 cycles -----> restage with PET/CT----->
  - Deauville 1-2 -----> Follow up or give another ABVD × 1cycle (total 4).
  - Deauville 3-4 -----> ABVD × 1cycle (total 4) + Involved site irradiation therapy (ISRT) 30 GY.
  - Deauville 5-----> re-biopsy ----->if –ve treat as Deauville 3-4, if +ve treat as refractory disease.
2. ABVD × 2 cycles -----> restage with PET/CT----->
  - Deauville 1-2 -----> ABVD × 1cycle (total 3) + ISRT 30 GY
  - Deauville 3-4 -----> Escalated BEACOPP × 2 cycles + ISRT 30 GY or ABVD × 2 cycles (total 4) + ISRT 30 GY.
  - Deauville 5-----> re-biopsy ----->if –ve treat as Deauville 3-4 , if +ve treat as refractory disease.
3. Stanford V × 8 weeks -----> restage with PET/CT----->
  - Deauville 1-4 -----> ISRT 30 GY
  - Deauville 5-----> re-biopsy ----->if –ve ISRT 30 GY, if +ve treat as refractory disease.

**Stage I, II: Unfavorable (> 3 sites of disease, ESR ≥ 50,+ve B-Symptoms)+ non bulky disease:**

1. ABVD × 2 cycles -----> restage with PET/CT----->
  - Deauville 1-2 -----> ABVD × 2 cycle (total 4) + ISRT or AVD × 4 cycle (total 6) ± ISRT.
  - Deauville 3-4 -----> Escalated BEACOPP × 2 cycles or ABVD × 2 cycles (total 4) -----> Consired PET/CT -----> ISRT.
  - Deauville 5-----> re-biopsy ----->if –ve AVD × 4 cycle (total 6) + ISRT, if +ve treat as refractory disease.
2. Stanford V × 12 weeks -----> restage with PET/CT----->
  - Deauville 1-4 -----> ISRT to initial sites >5cm (30-36 GY) begins within 2-3 weeks
  - Deauville 5-----> re-biopsy ----->if –ve ISRT as Deauville 1-4, if +ve treat as refractory disease.
3. Escalated BEACOPP × 2 cycles + ABVD × 2 cycles + ISRT ( for <60 years old) -----> restage with PET/CT----->
  - Deauville 1-4 -----> ISRT to initial sites >5cm (30-36 GY) begins within 2-3 weeks
  - Deauville 5-----> re-biopsy ----->if –ve ISRT as Deauville 1-4, if +ve treat as refractory disease.

**Stage I, II: Unfavorable (> 3 sites of disease, ESR ≥ 50, +ve B-Symptoms)+ bulky mediastinal disease or >10cm adenopathy:**

1. ABVD × 2 cycles -----> restage with PET/CT----->
  - Deauville 1-3 -----> ABVD × 2 cycle (total 4) + ISRT or AVD × 4 cycle (total 6) ± ISRT.
  - Deauville 4 ----- > Escalated BEACOPP × 2 cycles + ISRT or ABVD × 2 cycles (total 4) + ISRT.
  - Deauville 5-----> re-biopsy ----->if –ve treat as Deauville 4, if +ve treat as refractory disease.
2. Stanford V × 12 weeks ----- > treat as Stage I, II: Unfavorable non bulky.
3. Escalated BEACOPP × 2 cycles + ABVD × 2 cycles + ISRT (for <60 years old) ---- -->treat as Stage I, II: Unfavorable non bulky.

**Stage III, IV:**

1. ABVD × 2 cycles -----> restage with PET/CT----->
  - Deauville 1-3 -----> ABVD × 4 cycles -----> Follow up or ISRT to initially bulky or PET +ve sites.
  - Deauville 4-5 ----->
    - Escalated BEACOPP × 4 cycles or -----> restage with PET/CT----->
      - Deauville 1-3 -----> Follow up or ISRT to initially bulky or PET +ve sites.
      - Deauville 4-5 ----->re-biopsy ----->if –ve ISRT to initially bulky or PET +ve sites, if +ve treat as refractory disease.
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    - ABVD × 2 cycles (total 4)-----> restage with PET/CT----->
      - Deauville 1-3 ----->ABVD × 2 cycle (total 6) ± ISRT to initially bulky or PET +ve sites.
      - Deauville 4-5 ----->re-biopsy ----->if –ve ABVD × 2 cycle (total 6) ± ISRT to initially bulky or PET +ve sites, if +ve treat as refractory disease.
2. Stanford V × 12 weeks ( in selected patients with IPS <3) ----- > restage with PET/CT----->
  - Deauville 1-4 -----> ISRT to initial sites >5cm, involved spleen (30-36 GY) begins within 2-3 weeks
  - Deauville 5-----> re-biopsy ----->if –ve ISRT as Deauville 1-4, if +ve treat as refractory disease.
3. Escalated BEACOPP × 6 cycles + ABVD × 2 cycles + ISRT ( for <60 years old) --- --> re-stage with PET/CT----->
  - Deauville 1-2 -----> Follow up
  - Deauville 3-4-----> ISRT to residual PET +ve sites > 2.5 cm and Follow up.
  - Deauville 5 -----> re-biopsy ----->if –ve Follow up or ISRT to initially bulky or PET +ve sites, if +ve treat as refractory disease.

**Treatment of Classical HL Refractory disease:**

Biopsy proven refractory disease -----> Second line chemotherapy (ABVD, CHOP, CVP) + Rituximab -----> re-stage with PET/CT---

- Deauville 1-3 -----> High-dose therapy + autologous stem cell rescue (HDT/ASCR ± RT) or Follow up ± RT (if HDT/ASCR contraindicated).
- Deauville 4-----> HDT/ASCR ± RT or RT or Additional chemotherapy ± RT
- Deauville 5 -----> RT or Additional chemotherapy ± RT

**Treatment of Nodular Lymphocyte-Predominant HL:**

- **Initial treatment according to the stage:**

**CS IA, IIA (non-bulky):** Follow up or ISRT.

**CS IB, IIB or CS IA, IIA (bulky):** chemotherapy (ABVD, CHOP, CVP) + Rituximab+ ISRT.

**CS IIIA, IVA:** chemotherapy (ABVD, CHOP, CVP) + Rituximab ± ISRT or Rituximab or Local RT (Palliation of locally symptomatic disease).

**CS IIIB, IVB:** chemotherapy (ABVD, CHOP, CVP) + Rituximab ± ISRT.

- **For all stages ----->Re-evaluation with PET-CT:**

- Response: Follow up or ISRT (if no prior RT).
- Stable or progressive: Rebiopsy-----> >if -ve Follow up, if +ve treat as refractory disease.

**Treatment of Nodular Lymphocyte-Predominant Refractoty HL:**

Biopsy proven refractory disease ----->

- Aggressive B-cell lymphoma: treat as B-cell lymphoma.
- NLPHL: Follow up or Rituximab ± chemotherapy ± ISRT ----->Re-evaluation with PET-CT----->If clinical response follow up, if progressive disease treat as refractory classical HL.

