

# Lymphoma Treatment Modalities “The Big Picture”

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# Disclosures

- None

# Learning Objectives

- At the end of this session, participants will be able to:
  - Explain the role of chemotherapy, radiation and bone marrow transplant in the treatment of lymphoma
  - Explain why in some patients with lymphoma the approach is to “watch and wait”
  - Describe how the treatment of lymphoma can affect fertility and list what options can be offered to address this issue

# Treatment of Lymphoma

- Type and timing of treatment depends on a number of different factors
  - Lymphoma subtype and tumour behaviour
    - HL versus NHL with their various subtypes
    - Very aggressive versus aggressive versus indolent
    - Presence/absence of mutations
  - Stage
    - Ann Arbor classification I-IV- Limited versus Advanced
    - Presence or absence of “B” symptoms
  - Sites/Organs Involved
  - Patient factors
    - Age, co-morbidities

# Chemotherapy

- Backbone of treatment in lymphomas
- Exact “recipe” determined by disease and patient factors
- Monoclonal antibodies are often part of the recipe
  - Rituximab for B-cell NHL (CD 20)
  - Brentuximab for HL (CD 30)

# Initiation of Treatment

- Very aggressive and aggressive lymphomas
  - immediate treatment for CR
  - Burkitts, DLBCL, HL
- Limited-stage indolent lymphomas
  - May be considered for involved-field RT
- Advanced-stage indolent lymphomas
  - Decision to treat dependent on symptoms/criteria

# Chemotherapy Treatment in Advanced-Stage Indolent NHL

- Local symptoms
- Compromise of normal organ function
- Presence of systemic B symptoms
- Presence of symptomatic extranodal disease
- Cytopenias
- An increase in disease tempo

# “Watch and Wait” Strategy

- Patients with advanced- stage indolent lymphoma who don't meet criteria for immediate treatment
- Low disease burden
- No difference in OS or risk of transformation if treatment is delayed in these patients
- Assessed every 3 to 6 months



# Radiation Therapy

- Not the primary treatment modality in most patients with lymphoma
  - Exception limited-stage indolent lymphoma
- Is used following short-course chemotherapy (3 or 4 cycles) for limited-stage HL or aggressive NHL
- Is used following chemotherapy treatment for advanced-stage aggressive NHL or HL for consolidation of a residual mass on PET scan

# Stem Cell Transplant

- AutoSCT can be used as consolidation treatment in aggressive/very aggressive lymphomas
  - Eligibility and timing dependent on patient and disease factors
- AutoSCT does not have a defined role in indolent lymphomas
- AlloSCT- higher treatment-related mortality

# Preservation of Fertility

- Needs to be discussed in detail in at-risk patients
  - Male versus female
  - Patient age- risk of POF increases over age 30
  - Lifestyle factors
  - Disease factors
  - Type of chemotherapy/radiation treatment
- Early referral prior to treatment if possible
  - Amount of time
- Important to document discussions in patient chart
- Psychosocial supports

# Fertility Preservation Options

- Sperm cryopreservation for males
- Oocyte or embryo cryopreservation for females
- Other experimental treatments
- Radiation Shielding
- Ovarian transposition (females)

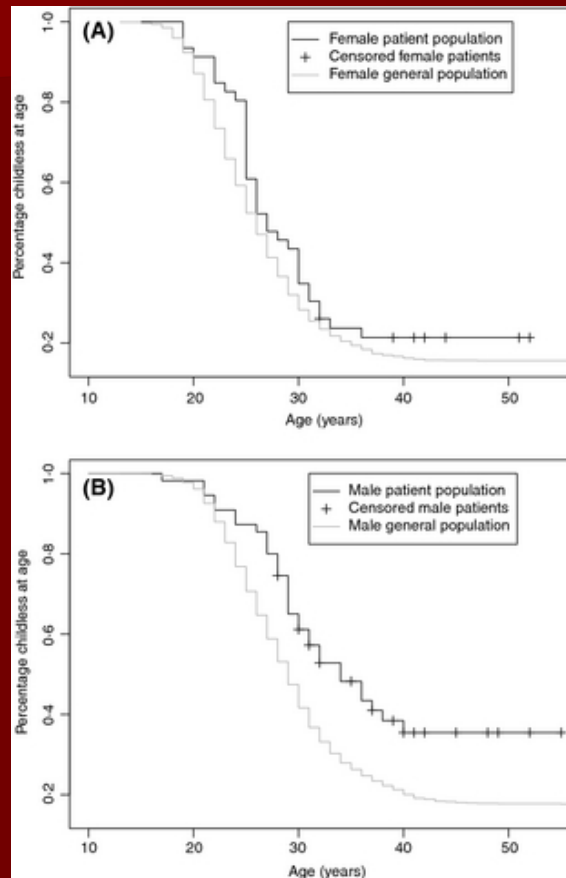
# What about Gonadotropin Releasing Hormone Agonists?

- GNRH agonists did not influence the rate of premature ovarian failure when given to female lymphoma patients
- Therefore, despite the theoretical advantage of a pharmacologic option to suppress ovarian function, it did not work in long-term followup!
  - (Demeestere et al., 2016)

# Lymphoma Patients At-risk for Infertility

- HL- little or no risk of premature ovarian failure with ABVD(Kaaij et al., 2012)
  - Risk 3 percent- patients less than 32 y.o.
  - Risk 9 percent- patients greater than 32 y.o.
  - Also low risk of permanent male sterility
- Indolent NHL
  - R-bendamustine risk unknown
- Aggressive NHL
  - RCHOP

## Parenthood in long-term survivors after CHOP with or without etoposide treatment for aggressive lymphoma (Meissner et al., 2014)



# However...

- Those low risks for infertility will only hold if patient achieves a CR with these treatments
- Risk increases dramatically if patient requires salvage chemotherapy and/or ASCT
- Discussions need to be individualized
- Recommended to wait for 2 years following completion of cytotoxic chemotherapy before trying to conceive



# Conclusions

- Chemotherapy is the backbone of treatment
- Radiation therapy and ASCT have a role
- “Watch and wait” can be considered for asymptomatic patients with advanced-stage indolent lymphomas with low tumour burden
- Low risk of infertility with chemotherapy regimens for aggressive lymphoma but increases with salvage treatments
- Fertility preservation options exist but GnRH agonists are not effective

# References

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