Navigating Systemic Therapy in Chordoma

Gregory Cote MD PhD
Outline

- Challenges
- Classes of Medical Therapies
- Clinical Trial Basics
- Example Roadmap
Systemic Therapies in Chordoma: Challenges

Small numbers, heterogeneous clinical behavior
Systemic Therapies in Chordoma: *Challenges*

Small numbers, heterogeneous clinical behavior

Subtypes within an already rare disease
Systemic Therapies in Chordoma: Challenges

Small numbers, heterogeneous clinical behavior
Subtypes within an already rare disease
Missing targets seen in other common cancers
Observation

Small molecule inhibitors
- Multi-kinase inhibitors
- EGFR inhibitors
- mTOR inhibitors
- CDK4/6 inhibitors

Immunotherapy
- Checkpoint inhibitors

Chemotherapy

Clinical trials
Observation

Small molecule inhibitors
- Multi-kinase inhibitors
- EGFR inhibitors
- mTOR inhibitors
- CDK4/6 inhibitors

Chemotherapy

Clinical trials

Immunotherapy
- Checkpoint inhibitors
Observation

Small molecule inhibitors
• Multi-kinase inhibitors
• EGFR inhibitors
• mTOR inhibitors
• CDK4/6 inhibitors

Chemotherapy

Clinical trials

Immunotherapy
• Checkpoint inhibitors
Targeted Therapy

DNA mutation
Observation

Small molecule inhibitors
\- Multi-kinase inhibitors
\- EGFR inhibitors
\- mTOR inhibitors
\- CDK4/6 inhibitors

Immunotherapy
\- Checkpoint inhibitors

Clinical trials

Chemotherapy
Immunotherapy
Small molecule inhibitors
• Multi-kinase inhibitors
• EGFR inhibitors
• mTOR inhibitors
• CDK4/6 inhibitors

Chemotherapy

Clinical trials

Immunotherapy
• Checkpoint inhibitors
Chemotherapy
Observation

Chemotherapy

Small molecule inhibitors
• Multi-kinase inhibitors
• EGFR inhibitors
• mTOR inhibitors
• CDK4/6 inhibitors

Clinical trials

Immunotherapy
• Checkpoint inhibitors
What’s a clinical trial?

New Treatments for Cancer
What’s a clinical trial?

Is it safe? What’s the best dose?
Early signs it works to control cancer?

Dose it work to control cancer as compared to:
other trials with a similar population?
compared to a control?

Pre-clinical Research  Phase 1  Phase 2  Phase 3  FDA approval
Clinical Trials: 
informed 
consent
Clinical Trials: screening
Clinical Trials: treatment
1. Informed Consent
2. Unlikely will include a placebo (i.e. everyone gets the study agent[s])
3. Early phase → busy, lots of visits, blood draws, sometimes biopsies
   • Access to cutting edge technology
4. Later phase → less busy, more prior experience with the agent
New Diagnosis of Recurrent or Metastatic Chordoma

Confirmation of pathology
Consultation with a chordoma expert
Consider genetic testing
New Diagnosis of Recurrent or Metastatic Chordoma

Genetic Testing

Poorly-Differentiated / De-differentiated Chordoma

Conventional Chordoma

Chemotherapy
Immunotherapy
Clinical Trials
Observation?

Conventional Chordoma

New Diagnosis of Recurrent or Metastatic Chordoma

Genetic Testing
Conventional Chordoma

New Diagnosis of Recurrent or Metastatic Chordoma

Genetic Testing

First Therapy

Observation

Is there a clinical trial?
Chordoma
- specific
Any cancer (Phase 1)
Rationale based on the genetic testing or laboratory work

Observation

First Therapy

Is there a clinical trial?

Conventional Chordoma

New Diagnosis of Recurrent or Metastatic Chordoma

Genetic Testing

Chordoma-specific

Any cancer (Phase 1)
*Rationale based on the genetic testing or laboratory work*
Chordoma - specific Any cancer (Phase 1) Rationale based on the genetic testing or laboratory work

Observation

First Therapy

Is there a clinical trial?

Yes

Conventional Chordoma

New Diagnosis of Recurrent or Metastatic Chordoma

Genetic Testing

Chordoma-specific

Any cancer (Phase 1) Rationale based on the genetic testing or laboratory work
New Diagnosis of Recurrent or Metastatic Chordoma

Genetic Testing

First Therapy

Is there a clinical trial?

No

Empiric

Based on genetic testing

Small molecule inhibitors/targeted therapy
Immunotherapy
Chemotherapy
New Diagnosis of Recurrent or Metastatic Chordoma

Genetic Testing

Conventional Chordoma

Next Therapy

First Therapy

Is there a clinical trial?

Yes

No
Thank you!