Management of Immune Thrombocytopenia in Children - Pediatric - Inpatient/Ambulatory/Emergency Department Guideline Summary

Objective: To provide standardized, evidence-based guidelines for the acute management of primary ITP in children.

Target Population: Children (1-17 yrs) with suspected primary ITP

Link to Full Guideline: Management of Immune Thrombocytopenia (ITP) in Children - Pediatric - Inpatient/Ambulatory/Emergency Department

Summary of Key Points

- Immune thrombocytopenia (ITP) is an acquired autoimmune disorder in which a low platelet count (<100 x 10^9/L) results from destruction of existing platelets and impaired production of new platelets.
- In most pediatric cases, ITP is mild and resolution often occurs without intervention; approximately three-quarters will respond to 1st line therapies.
- ITP can be primary (no other apparent causes of thrombocytopenia) or secondary (there is an identifiable associated condition) in nature
- ITP is also categorized based on the duration of thrombocytopenia as follows[1]:
    - Newly diagnosed ITP (<3 months duration)
    - Persistent ITP (3-12 months duration)
    - Chronic ITP (>12 months duration)

Evaluation and Management

- A diagnosis of primary ITP is established on a clinical basis through a patient history, physical examination, complete blood count and peripheral smear[1-6]. A diagnosis of ITP is made when these examinations yield:
    - isolated thrombocytopenia (<100 x 10^9/L) on the CBC
    - no abnormal findings on peripheral smear
    - an absence of findings that would raise concern for other causes of thrombocytopenia

  * If atypical features are present or there is concern for other conditions associated with thrombocytopenia (i.e. systemic illness, infection, malignancy, autoimmune illness), consider pediatric hematology consultation and additional referrals to help guide further work up
- UW Health endorses the recommendations pertaining to children (#10-21) within the American Society of Hematology (ASH) 2019 guidelines[1] for immune thrombocytopenia and also the carried over recommendations from 2011 ASH guideline[3] that were not changed/updated in 2019.
    - The endorsed recommendations are summarized in Table 1 of the full guideline
    - Appendix A outlines our internal guidance for the management of ITP in children
    - Appendix B provides a summary of key points for recommended 1st and 2nd line medications for ITP

References

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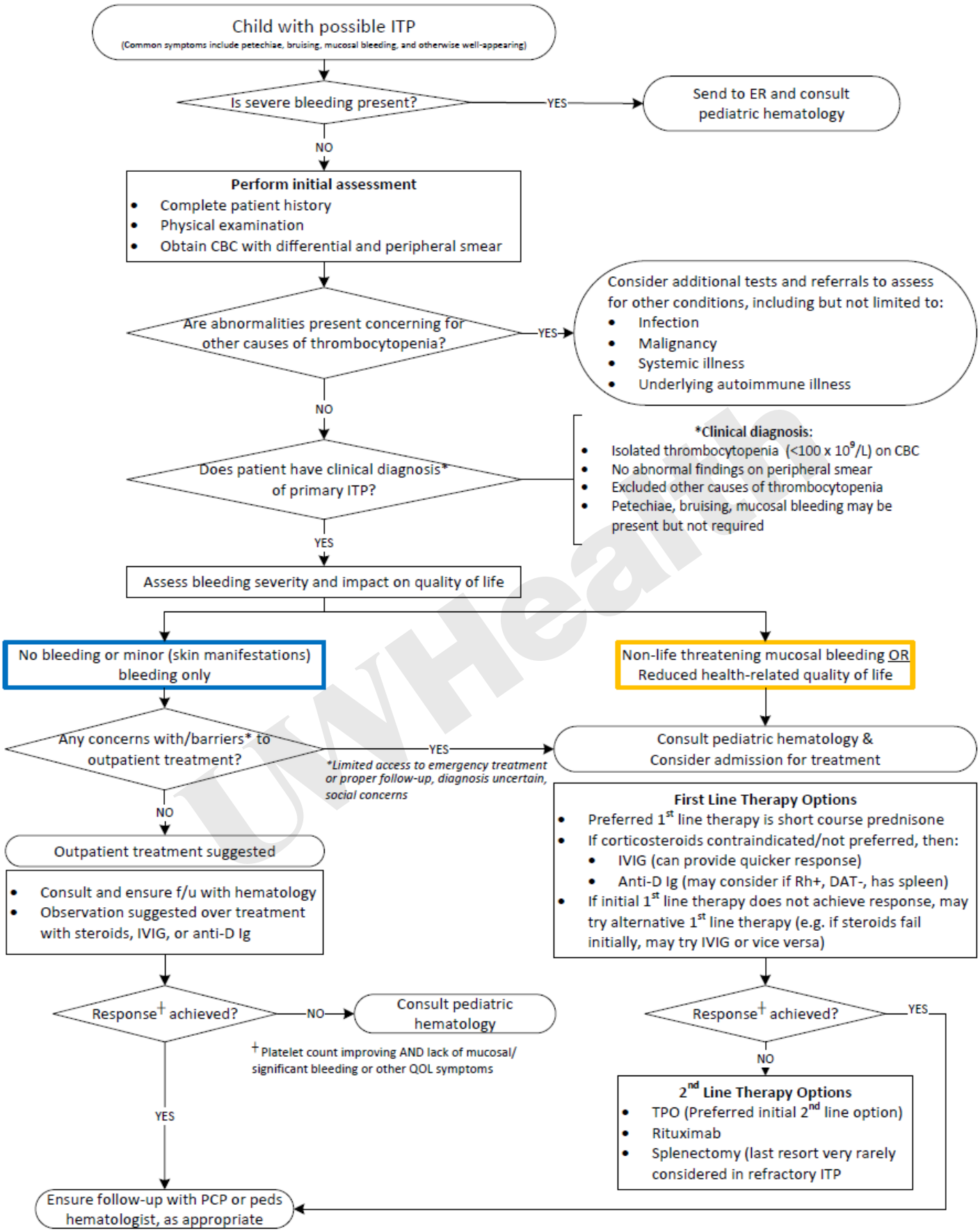
Appendix A. Management of Immune Thrombocytopenia in Children



Appendix B. Summary of Key Points for 1st and 2nd Line Medications for ITP in Children

Drug	Dosing Information (Assumes normal organ function)	Contraindications, Warnings / Precautions, Drug Interactions	Adverse Effects (Select common and significant toxicities reported here; refer to Lexi-comp® for complete list)	Clinical Pearls (Pearls are based on expert opinions from internal subject matter experts regarding drug selection, patient monitoring)
First-line Acute Therapies				
Prednisone	2-4 mg/kg/day orally (max 120 mg daily) in 3-4 divided doses, for 5-7 days	Review in Lexi-comp®	Gastritis Insomnia Mood/behavior changes Increased appetite, weight gain Hypertension Hyperglycemia	Time to response: 2-7 days Prolonged durations are not recommended and tapers are not needed with short durations. Prednisone is preferred over dexamethasone.
IVIG	0.8–1 g/kg IV for 1-2 days[2,4,5,7] Alternative Dosing: 400 mg/kg IV for 5 days See UW Health IVIG Guideline for further details regarding pre-medication, infusion rates, monitoring.	Review in Lexi-comp®	Headache Fever, chills Nausea, vomiting Infusion reactions Hypersensitivity reaction Rare (<1%) possibilities include: Thrombosis, renal failure, hemolytic anemia, and aseptic meningitis	Time to response: 1-2 days (usually within 24 hrs) May be preferred when a rapid rise in platelet count is needed and can be used in combination with corticosteroids for more severe cases
Anti-D Ig	50–75 mcg/kg over slow IV push (3-5 min)	Review in Lexi-comp®	Fever, chills Headache Infusion reactions Severe intravascular hemolysis is a rare possibility –monitor for 8h post-infusion	Time to response: 1-2 days May be considered as an alternative to IVIG in select patients; Patient must be Rh-positive, DAT-negative, and not splenectomized
Second-line Therapies				
Eltrombopag (TPO receptor agonist)	1–6 y: 25 mg/day orally >6-yrs: 50 mg/day orally (Reduce initial dose to 25 mg once daily if East/Southeast Asian ancestry (e.g., Chinese, Japanese, Korean, Taiwanese) Max dose 75 mg/day Take without a meal or with a meal low in calcium (=50 mg) and ≥ 2 hrs before and 4 hrs after Ca-containing foods or medications/supplements containing Ca, Fe, Al, Mg, Se, or Zn.	Review in Lexi-comp®	Abdominal pain Diarrhea Headache Arthralgia, myalgia Abnormal hepatic function tests	Re-evaluate platelet count in 2 weeks after initiation and use lowest dose that achieves platelet count goal (i.e. >50k) to reduce bleeding. • Eltrombopag: If below goal, increase in 12.5mg-25mg increments bi-weekly to max dose • Romiplostim: If below goal, increase by 1 mcg/kg weekly to max dose Discontinue if platelet count does not respond to a level that avoids clinically important bleeding after 4 weeks at the max daily dose. Thrombocytopenia is likely to recur following treatment cessation, but some (10-30%) may experience sustained response after taper and discontinuation
Romiplostim (TPO receptor agonist)	Initial 1 mcg/kg subcutaneously once weekly (Dosing range 1-10 mcg/kg weekly)	Review in Lexi-comp®	Rash Abdominal pain Diarrhea Headache Arthralgia, myalgia	
Rituximab	375 mg/m^2 IV infusion weekly × 4 doses[5,8]	Review in Lexi-comp®	Headache Fever, Chills Urticaria Serum sickness Progressive multifocal leukoencephalopathy (Rare)	Time to response: 3 weeks

* Medication information obtained from Lexi-comp® drug monographs except where cited otherwise. Clinical Pearls are based on expert opinions from UW Health subject matter experts.