



An Algorithmic Approach for Early Diagnosis and Management of Capillary Leak Syndrome (CLS) in Hematologic Malignancies

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Background

- ❖ Capillary leak syndrome (CLS) is a life-threatening disease characterized by capillary hyperpermeability leading to edema or anasarca, hypotension, hypoalbuminemia, and hemoconcentration.¹
- ❖ Signs and symptoms are nonspecific leading to CLS being underdiagnosed.^{1,2}
- ❖ CLS can be idiopathic or secondary to certain autoimmune diseases, infections (sepsis), snakebites, cancers, and drugs.^{1,3}
- ❖ Idiopathic CLS or Clarkson’s disease, has low prevalence (<1/1,000,000) with approximately 260 cases reported worldwide.^{2,3}
- ❖ For secondary CLS, nearly 50% of cases in cancer patients are related to anticancer drugs, including drugs used in hematologic malignancies but the underlying mechanisms are not well-known.⁴⁻⁶
- ❖ In total, roughly 45 antineoplastic and immunomodulatory drugs have been associated with CLS^{4,5} with episodes occurring at a median of 8 days after drug administration⁵ while median time to resolution is approximately 12 days.⁷
- ❖ Most drug-induced CLS occurrences are serious adverse events (86%) with a 27% mortality rate (related or unrelated to CLS).⁵
- ❖ Since there are no standard recommendations for drug-induced CLS diagnosis and treatment, providers use institutional guidelines or follow prescribing information.
- ❖ Given the different types of CLS, this abstract aims to provide straightforward guidelines for early diagnosis and management of drug-induced CLS.
- ❖ Therefore, we have created a CLS algorithm that outlines initial assessments and treatment because early intervention and appropriate management help reduce drug-induced CLS mortality.

Purpose

- ❖ To share life-saving information with healthcare providers who care for patients with hematologic malignancies about a rare but life-threatening syndrome, capillary leak syndrome (CLS), which is observed as an adverse effect of some drugs used in cancer treatments.

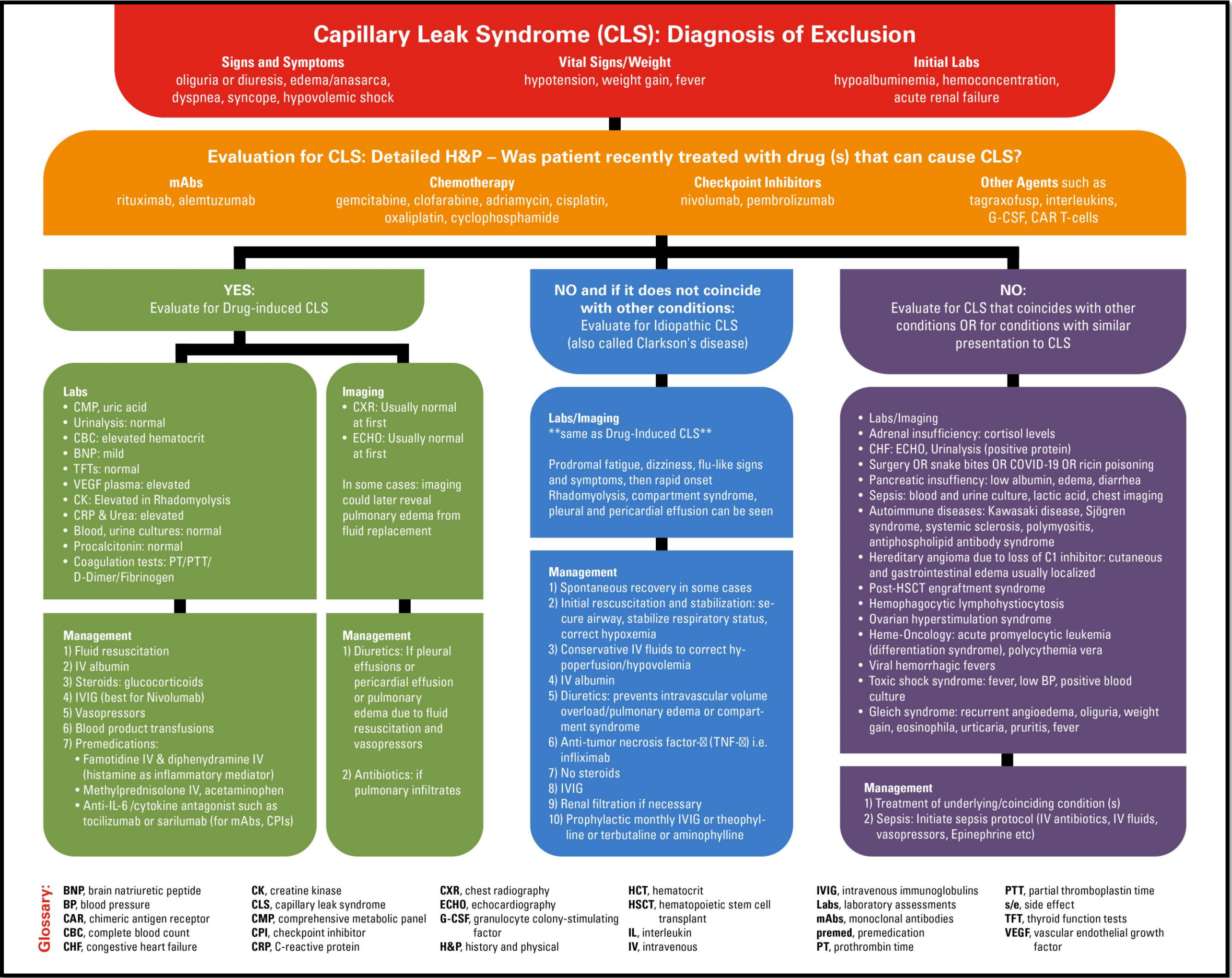
Methods

- ❖ A literature review using scientific databases PubMed, CINAHL and the Google Scholar search tool yielded nearly 30 scientific works. We focused on 12 publications from 2017-2021.
- ❖ Key words: capillary leak syndrome, CLS, systemic capillary leak syndrome, drug-induced CLS, idiopathic CLS

Conclusion

- ❖ Capillary leak syndrome (CLS) is a rare but life-threatening health condition that healthcare providers who care for patients with hematologic malignancies need to be aware.
- ❖ This new CLS algorithm is a clinical tool that eases diagnosis and management of CLS for improved patients’ outcomes.

Figure. Algorithmic Approach to Diagnosis and Management of Capillary Leak Syndrome



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