



JSSTD Symposium

## Symposium editorial: Secondary lymphedema

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Edema, which, in fact, is excess interstitial fluid, develops when there is high microvascular filtration rate, low lymph flow, or both. When the cause is primarily a failure in the lymphatic drainage, it is called lymphedema.<sup>[1]</sup> Lymphedema can be primary or secondary. While primary lymphedema is caused by genetic abnormalities affecting the lymphatic development and/or function, secondary lymphedema occurs when previously normal lymphatics are subjected to external insults such as systemic disorders, infection, trauma, or surgery.<sup>[2]</sup>

Lymphatics remove and transport circulating fluid and molecules from extracellular spaces to lymph nodes. In the skin, normally functioning lymphatics are essential for prompt clearance of pathogens that cross the skin barrier and enter the subcutaneous compartment. In other tissues, they maintain extracellular fluid balance.<sup>[3,4]</sup>

When the normal flow through the lymphatic vessels is impaired, protein rich fluid accumulates, mostly in the subcutaneous compartment. This, in turn, increases the risk of infections such as erysipelas and cellulitis. The accompanying inflammatory edema worsens the pre-existing edematous stage. The fluid rich stage gradually progresses to the stage of elephantiasis characterized by enlargement and fibrosis of the subcutaneous compartment and hyperkeratosis of the skin.<sup>[5]</sup>

Although these changes can be caused by congenital factors (primary lymphedema), a more common occurrence is secondary lymphedema. Cancer treatments necessitating lymph node removal or irradiation are the common causes for secondary lymphedema in developed countries and affects 15%–80% of all cancer survivors.<sup>[6]</sup> However, at the global level, lymphatic filariasis (the most common cause for secondary lymphedema in the developing countries) remains the major underlying cause for secondary lymphedema.<sup>[7]</sup> In both etiologies, the symptoms may be delayed up to months or years after the precipitating event.<sup>[3]</sup>

In addition to the two major causes, trauma, surgeries, infections, and tumors can lead to secondary lymphedema.<sup>[3]</sup> Established lymphedema, irrespective of the underlying cause, is an irreversible condition warranting lifelong care and support from family and society. The disfiguring and disabling symptoms impair the quality of life which can lead to depression in the affected. Poor access to treatment facilities (especially in the developing world) and limited information on treatment modalities available and lack of evidence on the efficacy of treatment pose major obstacles in offering relief to the affected.<sup>[3]</sup>

This symposium on “secondary lymphedema” is an attempt to bridge the gaps in the knowledge regarding this entity. Three in depth review articles dealing with pathogenesis, diagnosis and management and recent advances in treatment of lymphedema respectively are included in this

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symposium. We believe that these reviews would provide the much needed information to the readers.

#### Declaration of patient consent

Not required as there are no patients in this article.

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#### Conflicts of interest

There are no conflicts of interest.

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