



Panton-Valentine Leukocidin positive Staphylococcus aureus (PVL-SA)

Guidance for health professionals

The purpose of this poster is to ensure that clinical indications of Panton-Valentine Leukocidin positive Staphylococcus aureus (PVL-SA) are recognised promptly so advice and treatment are sought as soon as possible to reduce the risk of transmission to others within the household, wider community or health care setting.

Skin and soft tissue infections (SSTIs) and PVL-SA⁽¹⁾

Staphylococcus aureus (SA) is the most common pathogen responsible for skin and soft tissue infections (SSTIs). PVL-SA caused SSTIs are usually more severe and the impact on the patient can be considerable due to the need for prolonged treatment. Early recognition of PVL-SA infections is key.

What is PVL-SA?

Staphylococcus aureus is a common bacterium found on the skin and mucous membranes. It is predominantly associated with skin and wound infections.

PVL is a toxin produced by a small percentage of Staphylococcus aureus (PVL-SA) that can destroy white blood cells and cause more serious infections in wounds, joints and also (but rarely) pneumonias (invasive disease).

Epidemiology of PVL^(2,3)

Strains of PVL-SA have been known to cause disease for over a century. Over the last decade or so, PVL-related disease has increased world-wide. Currently, around 2,000 cases occur per annum in England and Wales; two thirds of these are caused by meticillin sensitive strains of S. aureus (PVL-MSSA), one third are due to meticillin resistant strains (PVL-MRSA).

PVL-SA is commonly (but not exclusively) associated with:

- infections in previously healthy individuals in the community
- under 40 year olds, but anyone is susceptible.

High risk groups for transmission of PVL-SA^(4,5)

PVL-SA infections are highly transmissible and can spread in settings where individuals are in close physical contact or may share personal items, for example towels. These groups include:

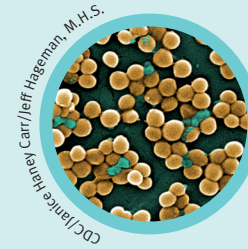
- families/households
- educational settings (including nurseries)
- military personnel/barracks
- close contact sports, e.g. rugby, judo, wrestling
- care homes
- gyms
- prison settings.



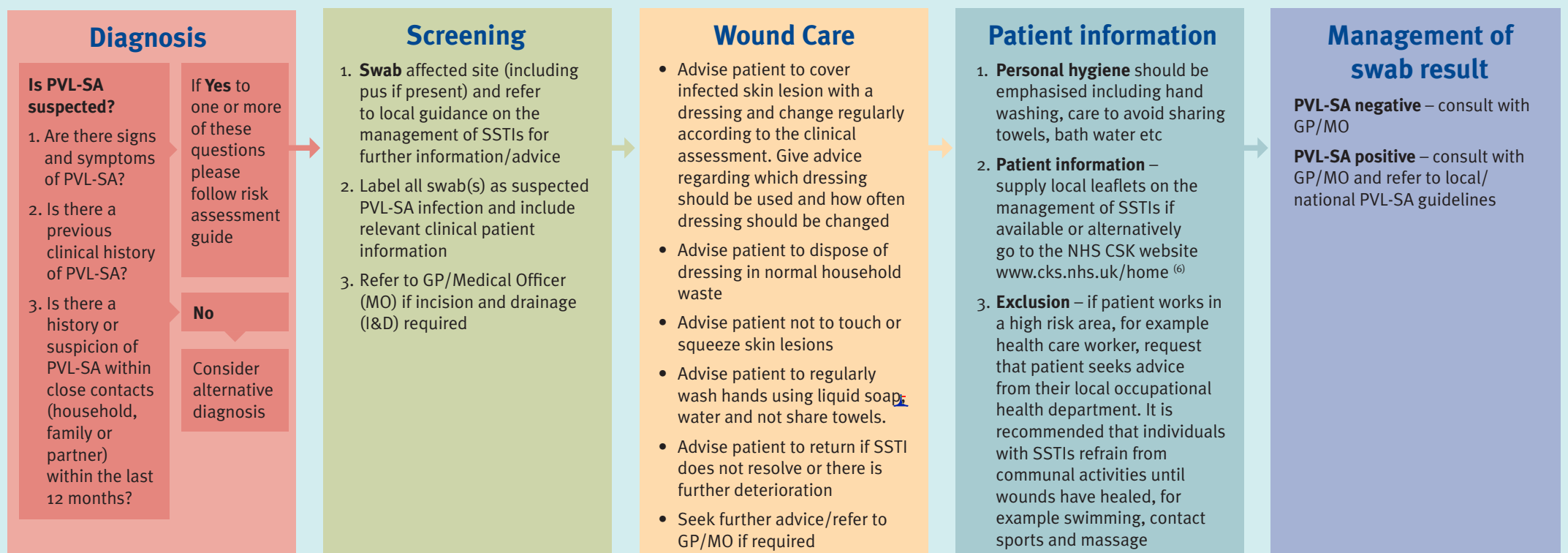
Signs and symptoms^(4,5)

You should suspect PVL-SA if a patient presents with the following:

- pus-producing skin infections (boils and abscesses) which vary in severity and may be recurrent
- cutaneous lesions ≥ 5 cms in diameter, which need different treatment from smaller lesions and may be recurrent
- cellulitis (inflammation \pm blistering of the skin)
- pain that is out of proportion to severity of cutaneous findings
- necrosis.



Risk assessment guide if PVL-SA is suspected



References

(1) Crossley K, Archer G, Jefferson K and Fowler V (editors) (2009) *Staphylococci in human disease*, Oxford: Wiley-Blackwell.

(2) Ellington MJ, Ganner M, Smith IM, Perry C, Cookson BD and Kearns AM (2010) Panton-Valentine leucocidin-related disease in England and Wales, *Clinical Microbiology & Infection*, 16 (1), pp.86-88.

(3) Health Protection Agency (2009) PVL-SA infections in England and Wales: 2005-2008 data and revised algorithm for referral of suspected cases, *Health Protection Report*, 3 (35). Available at: www.hpa.org.uk/hpr/archives/2009/news3509.htm#pvlssa

(4) Health Protection Agency (2008) *Guidance on the diagnosis and management of PVL-associated Staphylococcus aureus infections*

(PVL-SA) in England (2nd edition), London: HPA. Available at www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1218699411960

(5) Health Protection Agency (2010) *Topics A-Z: PVL-associated Staphylococcus aureus*, London: HPA. Available at: www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/PantonValentineLeukocidinPVL/

(6) NHS Choices (2010) *Clinical knowledge summaries: information for patients: Staphylococcal infections*, London: National Institute for Health and Clinical Excellence. Available at: www.cks.nhs.uk/patient_information_leaflet/staphylococcal_infections

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