

Disseminated varicella zoster (VZV) with abdominal pain and widespread vesicles in a patient undergoing treatment for Hodgkin lymphoma



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Conflict of Interest Statement

All presenters declare that they have no financial or non-financial conflicts of interest relevant to this presentation.

Visceral disseminated varicella zoster (VD-VZV)

Varicella zoster virus (VZV) reactivates in
immunocompromised patients

Shingles (带状疱疹)

→skin eruptions (usually unilateral)

Visceral disseminated varicella zoster (VD-VZV)

→visceral lesions

(sometimes preceding skin eruptions)

Woman in her 30s

Presenting symptoms: epigastric pain, fatigue

Clinical history: classical Hodgkin lymphoma

15 years earlier: chemoradiotherapy

at time of presentation: recurrent disease

on chemotherapy

Fever, lower back pain, nausea, cold sweats

Laboratory findings

Elevated C-reactive protein

Elevated liver enzymes

Normal serum amylase

Contrast-enhanced CT



CeA, SMA periarterial fat stranding

Contrast-enhanced CT



Enlarged left celiac ganglion

Differential diagnosis for periarterial fat stranding

(celiac and superior mesenteric arteries)

acute pancreatitis

vasculitis

aortic dissection

mesenteric ischemia

→ no enlargement or
heterogenous
enhancement of
pancreas

Differential diagnosis for periarterial fat stranding

(celiac and superior mesenteric arteries)

acute pancreatitis

vasculitis → no arterial wall thickening

aortic dissection

mesenteric ischemia

Differential diagnosis for periarterial fat stranding

(celiac and superior mesenteric arteries)

acute pancreatitis

vasculitis

aortic dissection → no dissection

mesenteric ischemia

Differential diagnosis for periarterial fat stranding

(celiac and superior mesenteric arteries)

acute pancreatitis

vasculitis

aortic dissection

mesenteric ischemia → No bowel wall changes

Clinical course

Paracetamol, NSAID i.v.

“a rash appeared on my head, limbs, and trunk 2 or 3 days ago”

- Dermatology consult
- Positive Tzanck test
- Rapid HSV test negative

Clinical course

Based on clinical and laboratory findings, imaging

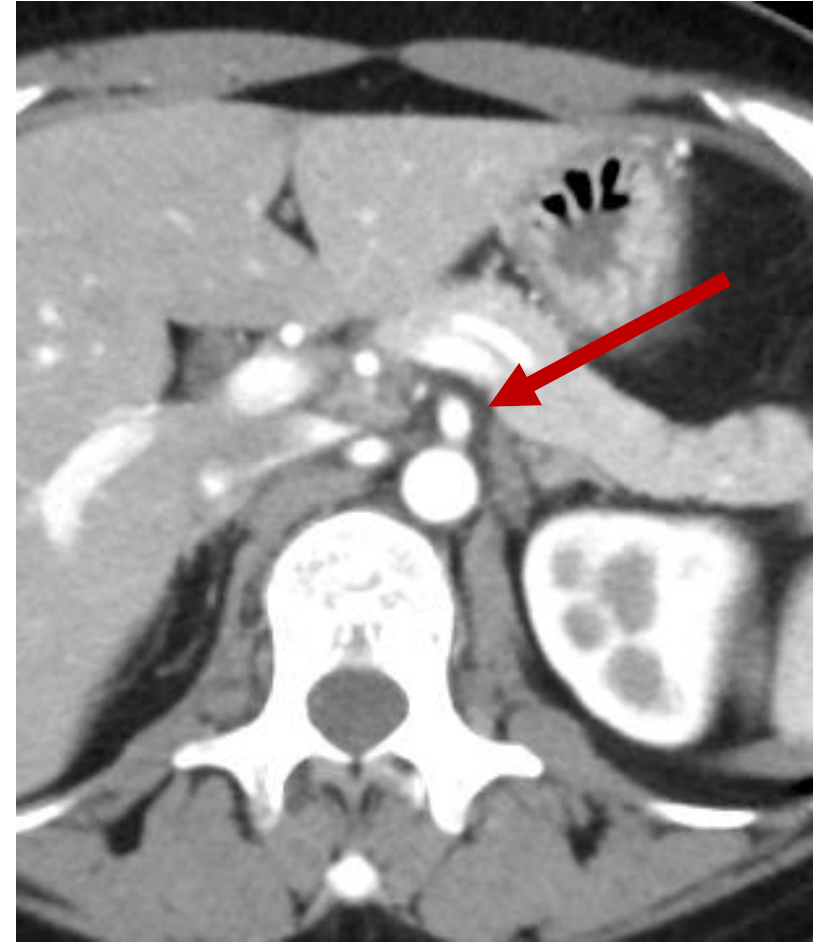
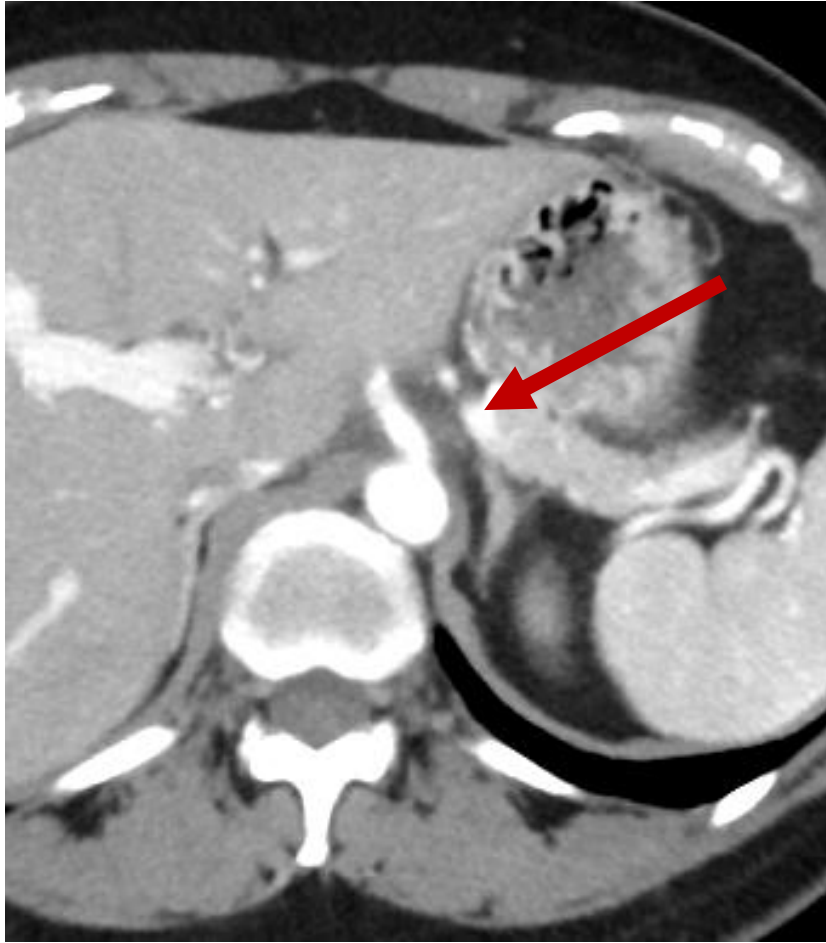
→ Disseminated herpes zoster

i.v. acyclovir

→ Abdominal pain (and skin eruptions) improved

→ Discharged 14 days later

36 days after discharge



No/ less periarterial fat stranding

36 days after discharge



celiac ganglion decreased in size

Varicella zoster virus

Primary infection → Neural ganglia

Decline of cell-mediated immunity

→ viral reactivation

(Typically) dermatomal herpes zoster

Immunocompromized

→ disseminated visceral infection

(mortality 25%)

Varicella zoster virus

Early diagnosis→prompt antiviral
therapy→improved survival

Abdominal pain (82-100%) sometimes
precedes skin eruptions (20-60%)

Recognition on CT can be helpful

David DS et al. Am J Gastroenterol. 93: 810—813, 1998

Rowland P et al. J Clin Oncol. 13: 1697—1703, 1995

CT findings for visceral VZV

Fat stranding around CeA/ MSA

VZV associated vasculopathy?

Ganglionitis?

CT findings for visceral VZV

VZV associated vasculopathy?

Inflammation of arterial wall

With inflammation of surrounding fat
(c.f. viral replication in cerebral
arteries)

CT findings for visceral VZV

Ganglionitis: VZV reactivation in
(celiac) ganglion

VZV DNA in human celiac ganglia

→possible site of latent infection

Celiac ganglion, origin of CeA

CT findings for visceral VZV

Periarterial fat stranding

celiac ganglion enlargement

Resolution after antiviral therapy

Celiac ganglion

upper retroperitoneum

in front of

diaphragmatic crura

medial to

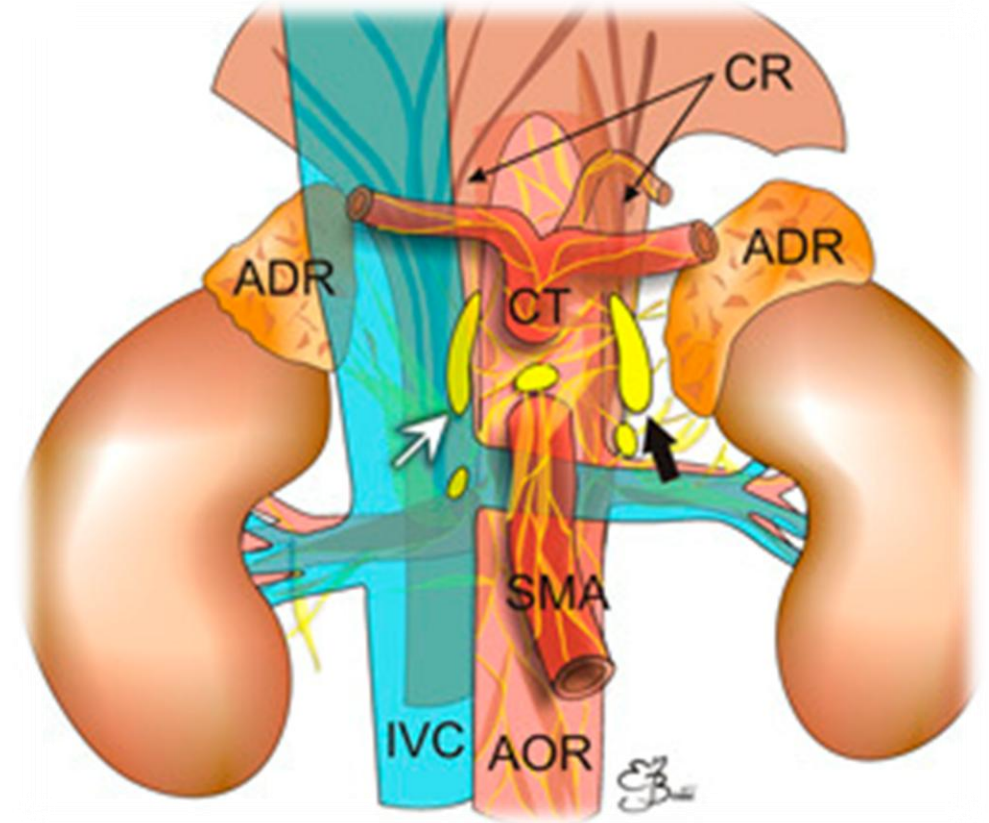
adrenal glands

beside

aorta

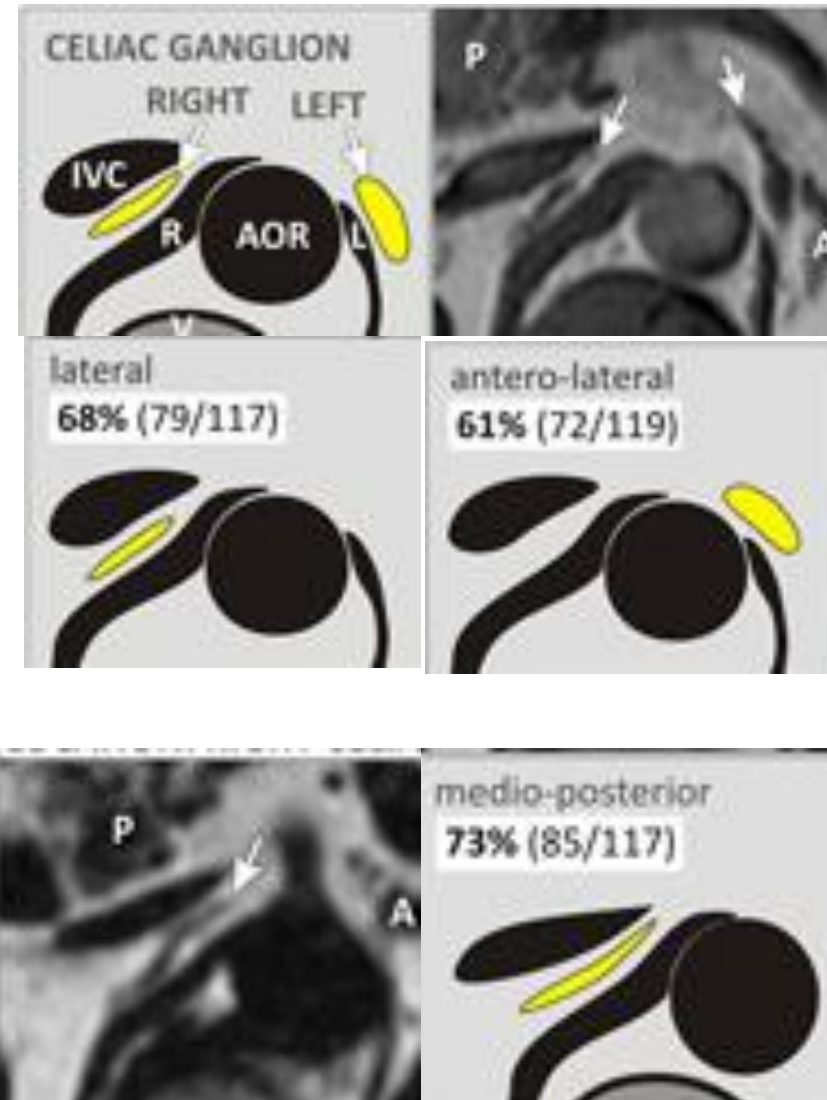
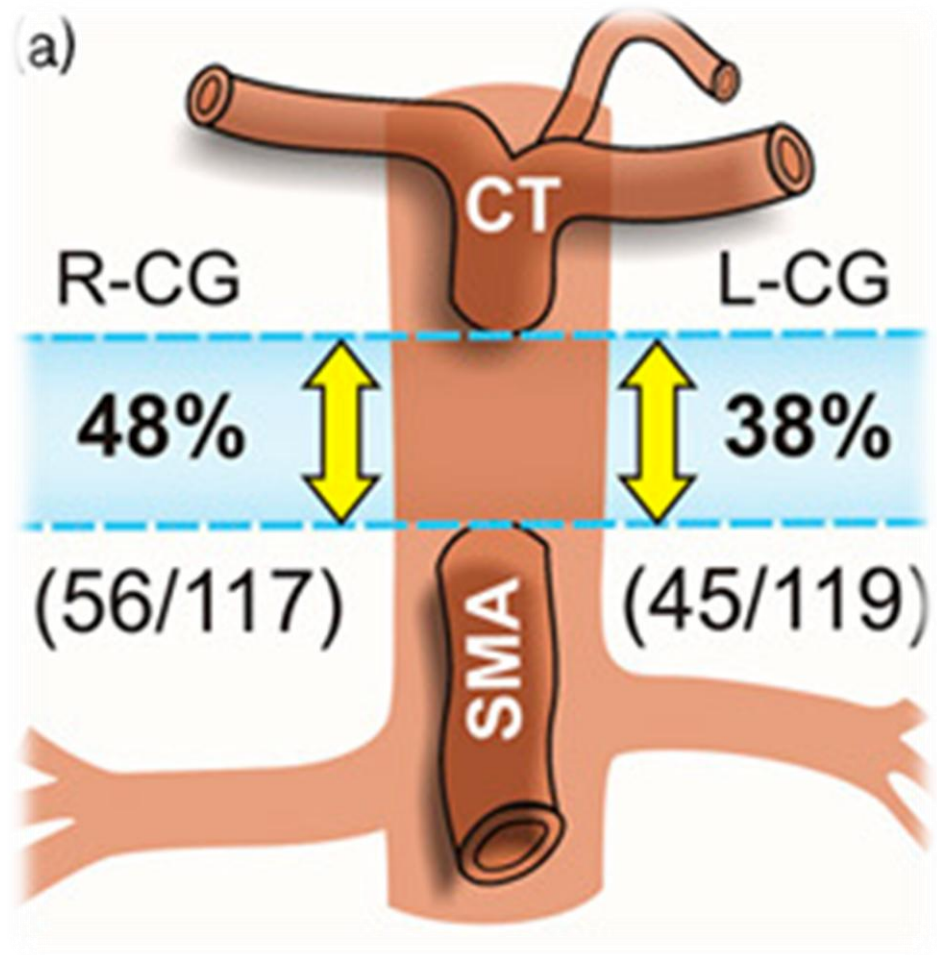
between

CeA and SMA



Candal R. *StatPearls* [Internet]. updated August 7, 2023.

Image adapted from: Bialek EJ et al. Nucl Med Commun. 2019 Feb;40(2):175-184v



Images adapted from: Bialek EJ et al. Nucl Med Commun. 2019 Feb;40(2):175-184v

CT findings for visceral VZV

Improved resolution of CT and MRI

→we can see structures we could not
see before

CT findings for visceral VZV

Periarterial fat stranding

Celiac ganglion enlargement

Clues to visceral VZV infection

CT findings for visceral VZV

Recognition of this pattern may support earlier diagnosis and treatment

Further studies needed to validate diagnostic performance and clinical utility