

# Heart Biopsies - Acute Rejection and Mimics

## ISHLT-2004 Acute Cellular Rejection Grading Scheme

Grade	Histopathologic findings
<b>0R, none</b>	None
<b>1R, mild</b>	Interstitial and/or perivascular infiltrate with up to 1 focus of myocyte damage
<b>2R, moderate</b>	Two or more foci of infiltrate with associated myocyte damage
<b>3R, severe</b>	Diffuse infiltrate with multifocal myocyte damage ± edema ± hemorrhage ± vasculitis

*From Stewart et al JHLT, 2005*

### Special Notes

1R: Infiltrate follows vasculature, rather than extending into myocytes

2R: Sometimes, infiltrate doesn't follow vessel shape - hiding myocyte damage from view

Neuts: Raise possibility of healing injury (acute) or AMR (chronic)

Eos: Often seen with severe 3R

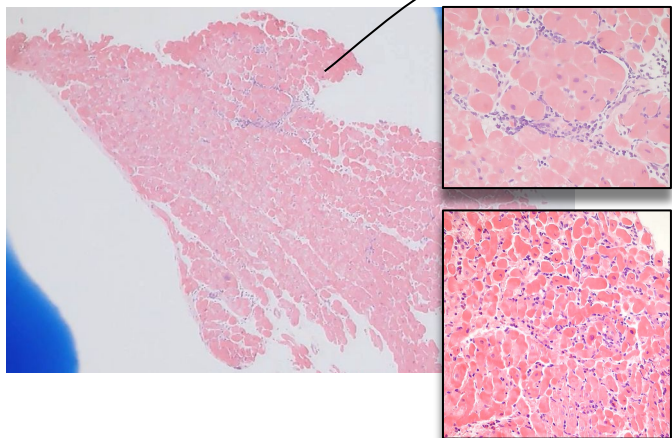
Myocyte damage: Feathery degeneration in diffuse infiltrates

Qu: Usually has capillaries, usually plaque like, sometimes plasma cells

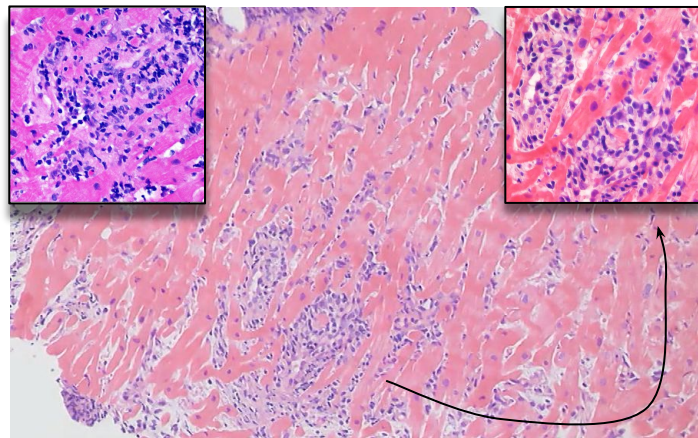
Qu: Don't overjudge myocardium underneath quilty focus

Finding	Think of ...
Predominantly Eos	Rx Hypersens., infection
Myocytolysis (vacuoles)	Think reversible ischemic injury
Ischemic injury	Usually <3mo after transplant
Fibrin	Recent biopsy site change
Intravascular lymphs	Idiopathic, not important
Adipose in bx	Free RV sampling. Epicardial fat

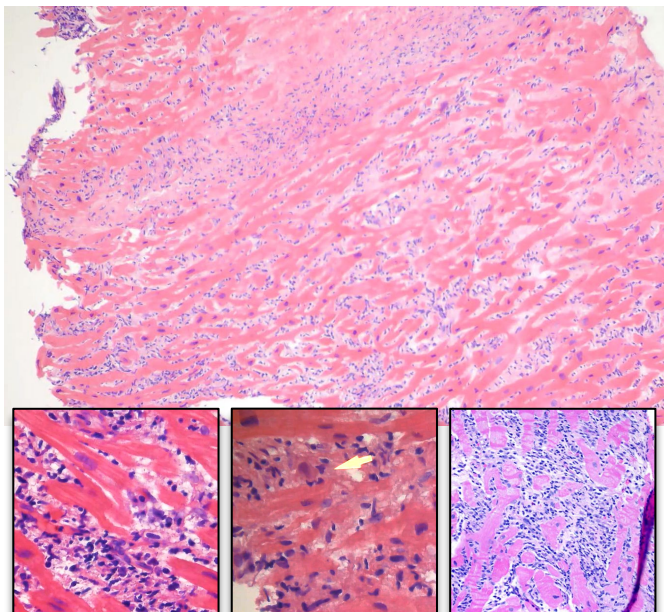
1R



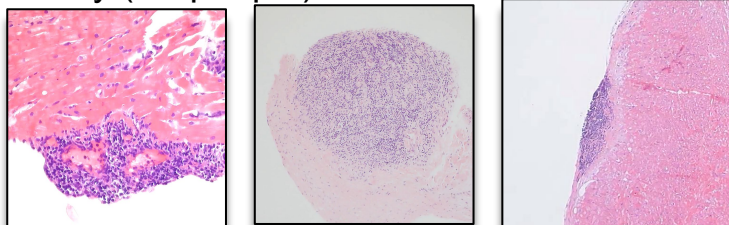
2R



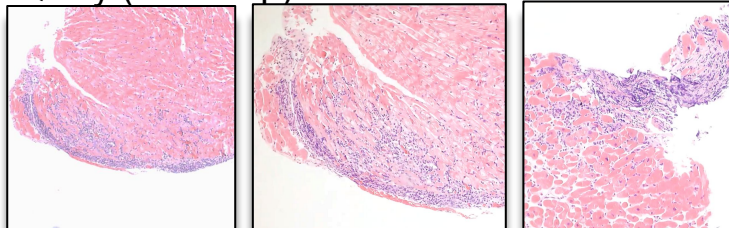
3R



Quilty (A - plaque)



Quilty (B - Deep)



Adapted from: Case Handout, Interactive microscopy: Heart and Lung transplantation. H. Tazelaar

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