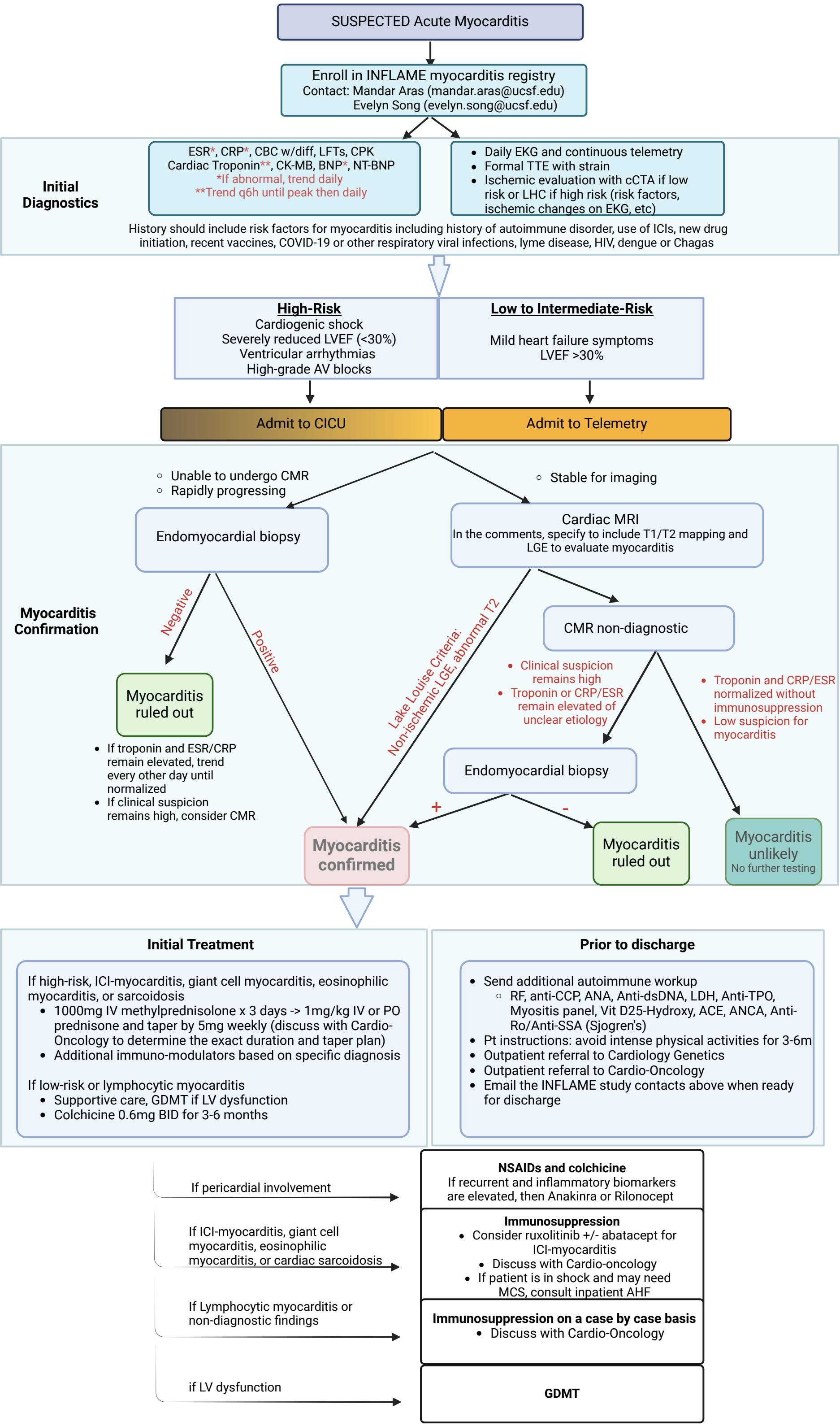
SUSPECTED Acute Myocarditis
Enroll in INFLAME myocarditis registry
Contact: Mandar Aras (mandar.aras@ucsf.edu)
Evelyn Song (evelyn.song@ucsf.edu)
Initial Diagnostics
ESR*, CRP*, CBC w/diff, LFTs, CPK
Cardiac Troponin**, CK-MB, BNP*, NT-BNP
*If abnormal, trend daily
**Trend q6h until peak then daily
Daily EKG and continuous telemetry
Formal TTE with strain
Ischemic evaluation with cCTA if low risk or LHC if high risk (risk factors, ischemic changes on EKG, etc)
History should include risk factors for myocarditis including history of autoimmune disorder, use of ICIs, new drug initiation, recent vaccines, COVID-19 or other respiratory viral infections, lyme disease, HIV, dengue or Chagas
High-Risk
Cardiogenic shock
Severely reduced LVEF (<30%)
Ventricular arrhythmias
High-grade AV blocks
Low to Intermediate-Risk
Mild heart failure symptoms
LVEF >30%
Admit to CICU
Admit to Telemetry
Unable to undergo CMR
Rapidly progressing
Stable for imaging
Endomyocardial biopsy
Cardiac MRI
In the comments, specify to include T1/T2 mapping and LGE to evaluate myocarditis
Myocarditis Confirmation
Negative
Positive
Lake Louise Criteria: Non-ischemic LGE, abnormal T2
CMR non-diagnostic
Clinical suspicion remains high
Troponin or CRP/ESR remain elevated of unclear etiology
Troponin and CRP/ESR normalized without immunosuppression
Low suspicion for myocarditis
Myocarditis ruled out
If troponin and ESR/CRP remain elevated, trend every other day until normalized
If clinical suspicion remains high, consider CMR
Endomyocardial biopsy
+
-
Myocarditis confirmed
Myocarditis ruled out
Myocarditis unlikely
No further testing
Initial Treatment
If high-risk, ICI-myocarditis, giant cell myocarditis, eosinophilic myocarditis, or sarcoidosis
1000mg IV methylprednisolone x 3 days -> 1mg/kg IV or PO prednisone and taper by 5mg weekly (discuss with Cardio-Oncology to determine the exact duration and taper plan)
Additional immuno-modulators based on specific diagnosis
If low-risk or lymphocytic myocarditis
Supportive care, GDMT if LV dysfunction
Colchicine 0.6mg BID for 3-6 months
Prior to discharge
Send additional autoimmune workup
RF, anti-CCP, ANA, Anti-dsDNA, LDH, Anti-TPO, Myositis panel, Vit D25-Hydroxy, ACE, ANCA, Anti-Ro/Anti-SSA (Sjogren's)
Pt instructions: avoid intense physical activities for 3-6m
Outpatient referral to Cardiology Genetics
Outpatient referral to Cardio-Oncology
Email the INFLAME study contacts above when ready for discharge
If pericardial involvement
NSAIDs and colchicine
If recurrent and inflammatory biomarkers are elevated, then Anakinra or Rilonocept
If ICI-myocarditis, giant cell myocarditis, eosinophilic myocarditis, or cardiac sarcoidosis
Immunosuppression
Consider ruxolitinib +/- abatacept for ICI-myocarditis
Discuss with Cardio-oncology
If patient is in shock and may need MCS, consult inpatient AHF
If Lymphocytic myocarditis or non-diagnostic findings
Immunosuppression on a case by case basis
Discuss with Cardio-Oncology
if LV dysfunction
GDMT