AIH Care

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM
LIVER DISEASE & HEPATITIS PROGRAM

AIH TREATMENT MEDICATIONS

Prednisone, Prednisolone, Methylprednisolone – Used to induce remission (initially and for flares) with individualized tapering schedule. Sometimes used as stand-alone treatment if other meds are not tolerated. Methylprednisolone (or prednisolone) is preferred when the bilirubin is elevated.

Azathioprine – Used as first line treatment once liver function tests (LFT) are controlled with steroids. Always get TPMT enzyme activity test before starting, then if normal, start at low dose (25mg qd) and titrate up per Liver Clinic Specialist. Check CBC w/diff 2 weeks after start and with every dose increase. Watch for anemia, neutropenia, thrombocytopenia due to bone marrow suppression. Other serious side effects include pancreatitis, hepatitis and alopecia.

Tacrolimus – Usually second line treatment if azathioprine is not tolerated or causes bone marrow suppression. Start at low dose (0.5 mg BID), and titrate up per Liver Clinic Specialist. Check creatinine, LFT and tacrolimus trough level 2 weeks after start and with every dose increase. Watch for impaired kidney function.

Mycophenolate – Usually second or third line treatment if azathioprine or tacrolimus are not tolerated. Start at low dose (500 mg BID) and titrate up per Liver Clinic Specialist. Need to check CBC w/diff 2 weeks after start and with every dose increase. Watch for neutropenia and bone marrow suppression.

Budesonide – Used when trying to decrease side effects from prednisone or methylprednisolone. Used concurrently or as a substitute, though not as good for inducing remission. DO NOT USE in decompensated cirrhosis or acute severe AIH.

AIH TREATMENT, GENERAL GUIDELINES

See chart on next page.

AIH FLARES

Consult Liver Clinic Specialist for management of flares (ALT >80)

AIH ROUTINE LABS ONCE AIH IS IN CONTROL

Prednisone/Methylprednisolone/Budesonide alone - LFT q 6 months once on a stable dose.

Azathioprine- CBC w/ Diff and LFT q 3 months once on a stable dose.

Tacrolimus- LFT, creatinine and 12-hour tacrolimus trough level q 3 months once on a stable dose.

Mycophenolate- CBC w/ diff and LFT q 3 months once on a stable dose.

GOT A QUESTION? WHO TO CALL

Liver Disease & Hepatitis Program – 907-729-1560 and ask for a provider or AIH nurse:

Julia Plotnik, RN – 907-729-1581

Cindy Decker, RN – 907-729-4636

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AIH Medications	Labs while adjusting doses/ Max dose (if any)	Routine labs once on a stable dose	Common SE	More Serious SE
Prednisone Used to induce remission (initially and for flares) with individualized tapering schedule. Sometimes used as stand-alone treatment if other meds are not tolerated. Methylprednisolone (or prednisolone) is preferred when the bilirubin is elevated.	LFT 1-3 weeks after each dose change, more often if acute. Tapering done based on LFT. Tapering should be slower as doses get lower. General guidance: At 10mg taper should be 1mg per month, sometimes slower once dose is at 5mg.	LFT q 6 months	Irritation, mood changes, depression, weight gain, puffiness, increased appetite, insomnia*, fluid retention, hyperglycemia *Consider med to help with sleep	Osteoporosis, cataracts, ulcers*, immunosuppression *Consider prophylactic treatment to prevent stomach irritation: famotidine, PPI, or Maalox 10ml
Methylprednisolone or prednisolone Use when the bilirubin is elevated. Used to induce remission (initially and for flares) with individualized tapering schedule.	LFT 1-3 weeks after each dose change, more often if acute. Tapering done based on LFT. Tapering should be slower as doses get lower. Generally transition to prednisone once at 10mg.	LFT q 6 months	Irritation, mood changes, depression, weight gain, puffiness, increased appetite, insomnia*, fluid retention, hyperglycemia *Consider med to help with sleep	Osteoporosis, cataracts, ulcers*, immunosuppression * Consider prophylactic treatment to prevent stomach irritation: famotidine, PPI, or Maalox 10ml
Azathioprine Used as first line treatment once LFT are controlled with steroids. Get TPMT enzyme activity test before starting, then if normal, start at low dose (25mg qd) and titrate up per Liver Clinic Specialist.	CBC w/ diff and LFT 2 weeks after start and with every dose change. Titration based on LFT. Max dose is 1-1.5mg/kg.	CBC w/ Diff and LFT q 3 months Watch for anemia, neutropenia and bone marrow suppression (can happen even after long-term tolerance).	Nausea/vomiting, headache, myalgia, skin rashes, alopecia	Anemia, neutropenia*, thrombocytopenia, pancreatitis, hepatitis, increased risk of malignancy including lymphoma, skin cancers and other malignancies, immunosuppression. *Watch WBC/ANC: Contact Liver Clinic if ANC < 1.5. Hold if ANC <1.0

AIH Medications, continued	Labs while adjusting doses/ Max Dose (if any)	Routine labs once on a stable dose	Common SE	More Serious SE
Tacrolimus Usually second line treatment if azathioprine is not tolerated or causes bone marrow suppression. Start at low dose (0.5 mg BID), and titrate up per Liver Clinic Specialist. Watch creatinine and tacrolimus levels.	CMP and 12 hour tacrolimus trough level 2 weeks after start and with every dose change Goal: Tacrolimus level 3-7, titrating to normalization of LFT	LFT, creatinine and 12 hour tacrolimus trough level q 3 months	Night sweats, fatigue, weight loss, diarrhea, constipation, headache, hypertension, photosensitivity	Impaired kidney function, rare risk of lymphoma, diabetes, immunosuppression
Mycophenolate Second or third line treatment, if azathioprine or tacrolimus are not tolerated or not recommended. Start at low dose (500 mg BID) and titrate up per Liver Clinic Specialist.	LFT and CBC w/ Diff, 2 weeks after start and with every dose change. Watch for anemia, neutropenia and bone marrow suppression. Max dose 1g BID	CBC w/ Diff and LFT q 3 months	Diarrhea, nausea/vomiting, hypertension, fever, leukopenia, headache, abdominal pain, UTI, constipation	Anemia, neutropenia, immunosuppression
Budesonide Used when trying to decrease side effects from prednisone or methylprednisolone. Used concurrently or as a substitute, although not as good for inducing remission. DO NOT USE in decompensated cirrhosis or acute severe AIH. Start at 3mg and titrate to normalization of LFT	LFT 1-3 weeks after each dose change Max dose is 9mg.	LFT q 6 months	Generally less than pred/mpred. Irritation, mood changes, depression, weight gain, puffiness, increased appetite, insomnia*, fluid retention, hyperglycemia *Consider med to help with sleep	Generally less than pred/mpred. Osteoporosis, cataracts, ulcers*, immunosuppression * Consider prophylactic treatment to prevent stomach irritation: famotidine, PPI, or Maalox 10ml

LFT= liver function tests, CBC w/diff = complete blood count w/ differential, CMP= complete metabolic panel

For more detailed information, see the AASLD AIH Practice Guidelines:

https://www.aasld.org/practice-guidelines/management-autoimmune-hepatitis

For other Liver Disease Care Documents, visit our website: www.anthc.org/hep and click on ***for Providers*** page. Care sheets are found at the bottom of the page under: *How to follow patients with liver disease*.