AAIM 2012

WS J: Alcohol & substance misuse

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Alcohol and substance misuse: objectives

- Detection and mortality risk assessment of alcohol and substance misuse may be challenging for the insurance medical professional. This workshop will provide a medical underwriting approach to alcohol and substance misuse in a case-based format. The advantages, short-comings and challenges of insurance laboratory testing for substances of abuse will also be addressed
  - Provide a risk selection approach to binge and regular chronic alcohol use. Discuss the role of lab testing, MVRs, alcohol questionnaires etc. Discuss the role of alcohol markers in risk classification.
  - Provide a risk selection approach to frequent marijuana use.
  - Provide an approach to the evaluation of positive laboratory test results for cocaine and cotinine, including technical limitations and characteristics of the tests currently available and of collection procedures.
  - Provide a risk selection approach to use of multiple prescription medications for chronic pain syndromes. Discuss risks associated with the opioid analgesics, including methadone.

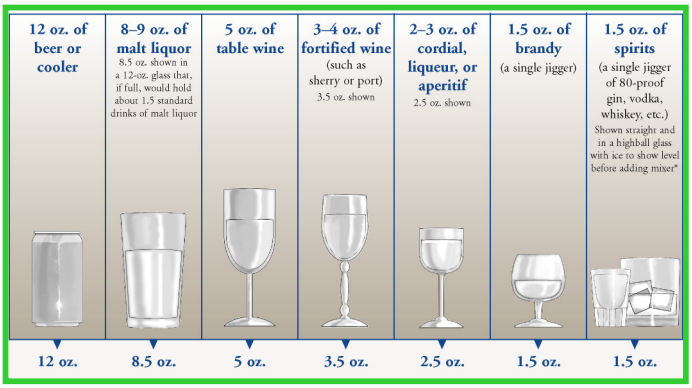
CASE S1: 40 year-old male, disabled OTR trucker, income $30,000, $200,000 term

- Exam: Ambulates with walker; otherwise negative with clear MVR.
- APS indicates spinal stenosis post lumbar surgery, neurogenic bladder, muscle atrophy in legs, chronic pain and depression. Reports he is no longer drinking.
- Medications: fluoxetine (Prozac) 60mg qd, oxycodone (OxyContin) 40mg bid, gabapentin (Neurontin) 600mg tid
- Referred for pain management in 2003, prescriptions now written by only one attending physician. Trial of TENS failed.
- Wife recently filed for divorce, left with daughter and moved in with a former boyfriend. She also took the dog.
- Part B:
  - what if, instead of medications above, he was just started on low dose methadone?
  - or medicinal marijuana?

CASE S1: 40 year-old disabled male; discussion

- **Answer:**
- The diagnosis is chronic pain with depression or perhaps more formally mood disorder secondary to a general medical condition. The severity appears be moderate to severe. Underwriting risk is at least moderate compared to the general insured population.
- **Discussion:**
- The pain is chronic in nature following surgery, with complications and functional limitations. Medications are being taken on an ongoing basis with some suggestion of prior problems with medication overuse. Recovery from chronic pain in this case is unlikely. The individual is being treated for associated depression and does not appear to have good social support. Alcohol history is not clear, but prior alcohol misuse is a consideration. Several unfavorable factors are present with the most significant being disability and the unstable and unfavorable social support situation, but apparently his condition overall appears stable.
- **Part B:**
- Methadone: caution with initial treatment until dosage stabilized, any dosage changes, any added medications such as benzodiazepines and with regular alcohol use, as these may increase risk of methadone toxicity
- Medicinal marijuana: concern as this is only a mild analgesic, similar potency to codeine, users more likely to have moderate-to-severe regional or widespread pain, to have tried and failed several medications, and to have alcohol or substance misuse problems, more evidence needed to clarify benefits vs. harm

A standard drink



CASE A1: 32 year-old male, $500,000 term

- Smoker pack/day x 10 years
- Exam: height 5ft7in (170cm), weight 150lbs (68kg)(stable), blood pressure (BP) 119/74
- History mild hypertension, mildly elevated cholesterol, mild depression/anxiety
- Medications: olmesartan-HCT(Benicar-HCT)20mg/day, simvastatin 20mg/day
- Habits: 2 drinks 1-2x per week. MVR: speeding ticket dismissed 2 years ago.
- Labs 5/11: Hemoglobin 15.3 g/dL, MCV 92.5, WBC 7,300, platelets 178,000, HbA1c 5.5%, cholesterol 176 mg/dL (4.6mmol/L), HDL-C 48 mg/dL (1.24mmol/L), LDL-C 100 mg/dL (2.6mmol/L), triglycerides 140 mg/dL (1.6mmol/L), bilirubin 0.6 mg/dL (10.3umol/L), ALT 34 U/L, AST 28 U/L, GGT 101 U/L, albumin 5.0 g/dL, Hepatitis B, C-neg, Urine cotinine >1.00 mcg/ml
- Followed by attending physician for over 12 years: 11/00 drank <1 beer per day; 11/09 drank 6-7 beers per day

CASE A1: 32 year old male: discussion

- **Key points**: 32 year old male, smoker, drinks 2-4 drinks/week, GGT 101, history of high blood pressure, cholesterol, 11/09 was drinking 6-7 beers/day
- **Underwriting points**: Smoking, GGT elevation, history of elevated blood pressure and elevated cholesterol raise the likelihood that heavy drinking (4 or more/day) is present.
- **Mortality risk** related to alcohol use is increased in the under age 40 group.
- **Conclusion**: Assessing him as a heavy alcohol user is reasonable, moderate underwriting risk. If he is considered to drink <4 drinks per day, one could make a point for considering as lower risk

CASE A2: 36 year old female, $1,000,000 term

- Non-smoker (NS)
- Exam: height 6 ft (183cm), weight 145 lbs (65 kg), BP 110/80
- No chronic diseases, Medications: multivitamins only
- Habits: wine-three drinks daily.
- Lab 4/11: bilirubin 0.9 mg/dL (1.54umol/L), ALT 22 U/L, AST 22 U/L, GGT 17 U/L, cholesterol 198 mg/dL (5.1mmol/L), HDL-C 69 mg/dL (1.8mmol/L), LDL-C 113 mg/dL (2.9mmol/L), triglycerides 82 mg/dL (.9mmol/L)
- APS: 7/10 headache and neck stiffness lead to ER visit, no hospital admission; brain MRI showed a small right corona radiate venous angioma
- 3/11 anxiety with some panic attacks waxing and waning for 4 months, no suicidal thoughts; history of anxiety intermittently, since 1994, and post-partum depression; seeing a therapist

CASE A2: 36 year old female; discussion

- **Key points**: 36 year old female drinks three glasses of wine/day, recent increased anxiety and panic attacks
- **Underwriting points**:3 drinks per day in a female is considered harmful drinking per current definitions (>40 grams alcohol/day).She has the comorbidities of anxiety and panic attacks (is she using alcohol as a medication?).
- 3 drinks per day in the under age 40 group of alcohol users is associated with an increased **mortality risk**.
- **Conclusion**: Assessing her as a mild to moderate increased mortality risk is reasonable.

CASE A3: 33 year old male, $1,000,000 term

- Non-smoker
- Exam: height 6ft1in (185cm), weight 180 lbs (81 kg), BP 117/67.
- Investment management; went to Georgetown.
- Alcohol use is 2 glasses of wine per week. In questionnaire admitted to 5 or more drinks (binge) once every five years. His only chronic illness is gout and his only medication is allopurinol 300 mg/day.
- 10/08 acute attack of gout, admitted to 4 drinks per week, uric acid 8.1mg/dL (482umol/L), ALT 21 U/L
- 5/10 acute attack of gout, uric acid 8.6 mg/dL (512umol/L)
- 3/11 acute attack of gout after wine country trip-usual treatment-colchicine, allopurinol
- 2/11 insurance lab: bilirubin 1.0 mg/dL (17umol/L), AST 14 U/L, ALT 17 U/L, GGT 15 U/L, albumin 5.0 g/dL, CDT positive (+), HAA 10.6 (<10.5), cholesterol 203 mg/dL (5.3mmol/L), HDL-C 87mg/dL (2.3mmol/L), LDL-C 103 mg/dL (2.7mmol/L), triglycerides 62 mg/dL (.7mmol/L)
- Part B: what if urine benzoylecgonine (cocaine metabolite) is positive? Applicant denies any substance use and asserts that the findings are laboratory error

CASE A3: 33 year old male; discussion

- **Key points**: 33 year old male, drinks 2 glasses of wine/week, gout attacks likely related to alcohol binges, CDT positive (+), HDL-C 87 mg/dL
- **Underwriting points**: The history of drinking alcohol at least weekly, CDT(+), and HDL-C 87 mg/dL indicate the likelihood of heavier alcohol use than admitted. The history of gout is circumstantial evidence for some binging.
- Drinking under age 40 is associated with an increased **mortality risk**.
- **Conclusion**: Underwriting risk is low to moderate. If he is considered drinking $\leq$4 drinks/day, underwriting risk is possibly closer to the general insured population
- **Part B**: Positive urine benzoylecgonine is consistent with cocaine use within 1 to 3 days of the test. Laboratory testing procedures, in place to minimize error, should be verified. Test may be positive with documented evidence of cocaine as topical anesthetic for a medical procedure. (Other topical anesthetics do not cross react with the cocaine test). Coca leaf tea, which is illegal in the USA, could also produce a positive urine cocaine test.

CASE A4: 50 year old male, $2,000,000 term

- Non-smoker
- Exam: height 5'9" (175cm), weight 165 lbs (74 kg) , BP 128/82
- Medical history is unremarkable except for cholesterol elevation.
- Medications: Niacin500mg/simvastatin20mg (Simcor)/day, clonazepam (Klonopin) 1 mg at bedtime
- Admits to drinking beer or spirits 1-3 drinks 2-3 times per week.
- Extensive APS revealed no alcohol concerns or problems possibly related to alcohol use.
- Insurance Lab 3/11: bilirubin 0.53 mg/dL (9umol/L), AST 33 U/L, ALT 38 U/L, GGT 102 U/L, albumin 4.8 g/dL, CDT positive (+), cholesterol 215 mg/dL (5.6mmol/L), HDL-C 63 mg/dL (1.6mmol/L), LDL-C 114 mg/dL (3mmol/L), triglycerides 193 mg/dL (2.2mmol/L)

CASE A4: 50 year old male; discussion

- **Key points**: 50 year old male, drinks 2-9 drinks/week, takes clonazepam (Klonopin) at bedtime, GGT 102 U/L, CDT positive (+)
- **Underwriting points**: The combination of drinking alcohol at least weekly, CDT(+) and elevated GGT make the possibility of heavy alcohol use likely. He takes a hypnotic sedative at bedtime, raising the possibility of combining it with alcohol.
- Age 50 **mortality risk** associated with heavy alcohol use is less than at a younger age, though there is some increased mortality risk with heavy drinking (see Klatsky slide).
- **Conclusion**: Underwriting risk is low to no excess risk compared to the general insured population. Risk varies with actual level of alcohol consumption and with whether he mixes alcohol with clonazepam.

CASE A5: 58 year old male, $1,000,000

- Non-smoker
- Exam: height 6ft (183cm), weight 165 lbs (74 kg), BP 135/84.
- Application: denied any illnesses, not taking any medications. Current alcohol consumption was not stated.
- 5/11 ins lab: bilirubin 0.8 mg/dL (14umol/L) , AST 27 U/L, ALT 44 U/L, GGT 30 U/L, cholesterol 164 mg/dL (4.2mmol/L), HDL 69 mg/dL (1.8mmol/L), LDL 84 mg/dL (2.2mmol/L), triglycerides 54 mg/dL (.6mmol/L), albumin 5.0 g/dL, Urine cotinine negative
- APS: 1997 right hernia repair, 2006 second right hernia repair, chronic right hydrocoele
- 2007 rare alcohol use; AST 22 U/L, ALT 43 U/L
- 8/09 10-12 beers per week, AST 29, ALT 39, Hepatitis A, B, C-all negative
- 11/09 liver biopsy for suspected NASH: 30% steatosis, 1+ inflammation, 2+ fibrosis; Diagnosis - steatohepatitis (NASH)

CASE A5: 58 year old male, discussion

- **Key points**: 58 year old male, current alcohol use unknown, 8/09 was drinking 10-12 beers/week, 11/09 liver biopsy-30% steatosis, 2+ fibrosis
- **Underwriting concerns**: This is a "trick" question. That is, it is an example of misleading APS information. NASH is Non-Alcoholic SteatoHepatitis. NASH looks identical to alcoholic hepatitis on liver biopsy. If there is any alcohol consumption, then a person cannot have NASH. So, this gentleman, drinking 10-12 beers per week a few months before liver biopsy, has alcoholic hepatitis and more than mild fibrosis is present.
- We don't know current alcohol use and will never know the exact amount of alcohol he uses. Continued alcohol use with known alcoholic hepatitis can lead to cirrhosis.
- **Conclusion**: Underwriting risk, based on alcoholic hepatitis, is moderate to high excess risk compared to the general insured population

CASE A6: 55 year old male, $590,000 term

- Non-smoker
- Exam: height 5ft11in (180cm), weight 228 lbs (103 kg), BP 156/101
- Admits to high BP and abnormal lipids, drinks two wine or beers two times per week
- Medications: lisinopril 10 mg/day, atorvastatin (Lipitor) 10 mg/day.
- Insurance Lab 5/11: bilirubin 1.0 mg/dL (17umol/L), AST 26 U/L, ALT 34 U/L, GGT 54 U/L, albumin 4.9 g/dL, cholesterol 193 mg/dL (5mmol/L), HDL-C 58mg/dL (1.5mmol/L), LDL-C 91 mg/dL (2.4mmol/L), triglycerides 216 mg/dL (2.4mmol/L)
- 6/10 cardiac evaluation due to age and risk factors: echo-mild left ventricular hypertrophy (LVH) (no measurements), LV ejection fraction (EF) 60%; Treadmill stress test with 1-1.5 mm ST depression, short episode of non-sustained ventricular tachycardia (NSVT) (number of beats unknown), perfusion scan-normal, LV EF~50%, went 7:44, BP to 240/140; heart catheterization-minimal CAD (no report)
- 8/10 4-6 beers per day; 12/10 normal physical exam captain's exam for scuba diving

CASE A6: 55 year old male, discussion

- **Key points**: 55 year old male, triglycerides 216 mg/dL (2.4mmol/L), history of high blood pressure and lipids, drinks 4 drinks per week, last summer was drinking 4-6 beers per day, 6/10 cardiac testing showed a hypertrophic cardiomyopathy-left ventricular hypertrophy (LVH), LV EF-50%.
- **Underwriting points**: This is a case of hypertensive cardiomyopathy, with the hypertension likely related to alcohol intake (more than 3 drinks per day can cause hypertension in susceptible individuals). Alcohol can cause triglyceride elevation.
- **Conclusion**: Based only on the hypertension and cardiac findings which are likely alcohol-related, the underwriting risk is at least moderate compared to the general insured population. Considering the whole picture with scuba diving and likely heavy alcohol use, the overall underwriting risk is high compared to the general insured population

CASE A7: 39 year old female, $300,000 term

- Non-smoker
- Exam: height 5ft1in (155cm), weight 108 lbs (48 kg), BP 106/69
- Admits to a history of prior anti-phospholipid antibody syndrome and in vitro fertilizations, drinks alcohol 2 drinks 3x per week. Divorced.
- Medications: norethindrone acetate/ethinyl estradiol (Loestrin)
- MVR: DWI (driving while intoxicated) in 11/08 with a blood alcohol concentration (BAC) 0.18% w/v and successful completion of an alcohol clinic course program.
- Insurance Lab 5/11: bilirubin 0.6 mg/dL (10umol/L), AST 21 U/L, ALT 19 U/L, GGT 33 U/L, albumin 4.2 g/dL, cholesterol 180 mg/dL (4.6mmol/L), HDL 83 mg/dL (2.1mmol/L), triglycerides 65 mg/dL (.7mmol/L)
- Review of APS revealed atypical chest pain 9/10 and a normal echocardiogram. She also was noted to have some insomnia and sweating at night, chronic, not severe.

CASE A7: 39 year old female, discussion

- **Key points**: 39 year old female drinks 6 drinks/week, has some insomnia, DWI 11/08 with BAC 0.18% w/v
- **Underwriting points**: The prior DWI indicates significant risk taking behavior. Blood alcohol concentration is very high, compatible with a significant binge drinking episode-more than 6 drinks.It is unclear if she went through an alcohol course or an alcohol treatment program.
- Any alcohol use under age 40 is associated with an increased **mortality risk**. The question of using alcohol to treat her chronic insomnia is also a possibility.
- **Conclusion**: This is a difficult case because of prior problems related to alcohol use, chronic insomnia (alcohol is known to interfere with sleep, not recommended if OSA is present), and continued weekly drinking. Her mortality risk appears increased, perhaps, in the mild to moderate range.