Internal Medicine Consultation for Dentists

Nina Mingioni, MD
Thomas Jefferson University, nina.mingioni@jefferson.edu

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Internal Medicine Consultation
for Dentists

Nina Mingioni, MD FACP
Internal Medicine
Sidney Kimmel Medical College
Thomas Jefferson University
Percentage of All Americans with Chronic Conditions, by Number of Chronic Conditions – 2010

Percent of All Americans with Multiple Chronic Conditions, by Age Group – 2010

Learning Objectives

- Recognize ubiquitous nature of common medical condition in general population
- Discuss implications of common medical conditions on dental care of patients
- Identify concerns affecting patients that would necessitate medical consultation prior to dental intervention
So, your patient

- Has high blood pressure
- Has diabetes
- Is Anticoagulated
- Needs Antibiotics
- Is on bisphosphonates
- Is Immuno-compromised
So, your patient

- Has high blood pressure
- Has diabetes
- Is Anticoagulated
- Needs Antibiotics
- Is Immuno-compromised
- Is on bisphosphonates
Hypertension

- Chronically elevated blood pressure >140/90
- 29% of adults in US (1 in 3!!!!)
- Only 54% controlled
Elevated Blood Pressure in the office

- Previously undiagnosed hypertension
- Known hypertension: Chronically uncontrolled, Usually controlled, but uncontrolled today
- White coat hypertension
- Pain
What is “dangerously elevated blood pressure?”

Hypertensive Urgency
• SBP >180 and/or DBP >110
  • Asymptomatic
  • ?mild headache

Hypertensive Emergency
• SBP >180 and/or DBP >110
  • Altered Mental Status
  • Stroke (ischemic/hemorrhagic)
  • Acute coronary syndrome
  • Hearth failure
  • Renal failure
When to send to ER?

- SBP >180 and/or DBP >110
  - Altered Mental Status
  - Stroke (ischemic/hemorrhagic)
  - Retinopathy
  - Acute coronary syndrome
  - Aortic dissection
  - Hearth failure
  - Renal failure
What to ask your patient...

- Do you have.... (ask for “red flag symptoms”)
- Have you ever been told you have elevated blood pressure?
- Did you take your medications today?
- Do you check your blood pressure at home?
- What was your blood pressure last time you went to see your doctor?
**Steps for Accurate BP Measurement**

1. **Seat patient with feet flat on the floor, relaxed and quiet for 5 min. Have patient empty bladder and avoid caffeine, exercise and smoking for 30 minutes. Remove clothing from arm.**

2. **Use properly validated, calibrated BP measurement device. Support patient’s arm and position cuff on bare arm at level of the right atrium. Use correct cuff size.**

   Usual sizes based on arm circumference:
   - 22-26 cm = Small Adult
   - 27-34 cm = Adult
   - 35-44 cm = Large Adult
   - 45-52 cm = Adult Thigh

3. **First visit, record BP in both arms, using the arm with higher reading. Separate repeated measurements by 1-2 minutes.**

4. **Record SBP and DBP**. Note time of most recent BP med taken before measurement.

5. **Use an average of 2 readings obtained on 2 occasions to estimate the individual’s level of BP.**

6. **Provide patient the SBP/DBP readings both verbally and in writing.**
White Coat Hypertension

Blood pressure is consistently elevated by the office readings but does not meet diagnostic criteria for hypertension based on out-of-office readings.

15-30% of all patients with elevated office readings

Diagnosis

In-office interval readings | Ambulatory blood pressure monitoring
So, your patient has elevated BP...

• >180/110 – ask for “red flag symptoms”
  • Present – send to ER
  • Absent – send to their primary care physician

• Dental treatment should (probably) not be performed that day
So, your patient

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- Has diabetes
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- Is Anticoagulated
- Is Immuno-compromised
- Is on bisphosphonates
Hypoglycemia VS Hyperglycemia
Who gets hypoglycemia?

- Patients on insulin
- Patients taking sulfonylurea medications
Medications that do NOT cause hypoglycemia

- Metformin
- TZDs
- GLP-1 analogues
- DPP4 inhibitors
- SGLT-2 antagonists
Pre-procedure advice:
Patients on insulin

• Long acting insulins: glargine (Lantus/Basaglar), detemir (Levimir),
diglutec (Tresiba)
  continue full dose without adjustments
• Patients with insulin pumps
  continue full dose without adjustments
Pre-procedure advice:
Patients on insulin

• Pre-mixed insulin: 70/30, 75/25, 50/50
  HALF of usual morning dose

• Intermediate acting insulin: NHP
  HALF of usual morning dose

• Short acting insulins: lispro, aspart, glulisine
  NONE, unless patient is eating
What if patient is hypoglycemic?

• Glucose tablets
• Glucose gel
So, your patient

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Anticoagulants

- Antiplatelet medications (aspirin, clopidogrel, prasugrel)
- Vitamin K antagonists (warfarin)
- Heparins (UFH, LMWH)
- Novel oral anticoagulants
  - Factor Xa inhibitors: apixaban, rivaroxaban
  - Direct thrombin inhibitors: dabigatran
Anticoagulants: indications

• Treatment of acute event

• Primary prophylaxis
  • Aspirin for heart disease, stroke prevention
  • Warfarin/NOACs for stroke prophylaxis in Atrial Fibrillation
  • Warfarin for stroke prophylaxis in patients after valve replacement

• Secondary prophylaxis
  • Heart disease
  • Strokes
  • Clots
Interruption?

MOST PATIENTS -> CONTINUE MEDS

HIGH BLEEDING RISK -> TALK TO THE PRIMARY CARE DOC
Coagulopathy due to other medical conditions

- Chronic kidney disease
  - Dialysis patients

- Chronic liver disease

- Bone marrow disorders
  - Myelodysplasia
  - Hematologic malignancies
  - Recent chemotherapy

- Hereditary coagulopathies

- Autoimmune (idiopathic thrombocytopenic purpura)

- Advanced heart failure (with secondary liver dysfunction)
So, your patient

- Has high blood pressure
- Has diabetes
- Is anticoagulated
- Needs antibiotics
- Is immunocompromised
- Is on bisphosphonates
Would you consider antibiotic to prevent infections in patients with...

- Prosthetic valve?
- Prosthetic joint?
- Breast implants?
- Immunosuppressed?
- Pacemaker?
- Coronary stent?
- Dialysis AV graft?
Endocarditis Prophylaxis: **YES**

- Prosthetic valves
- History of endocarditis
- Congenital heart disease
- Hearth transplant recipients with valvulopathy

- Unrepaired cyanotic heart disease
- Cyanotic heart disease with repair that used prosthetic material

Antibiotic prophylaxis: how effective is it?

- No human study has definitively demonstrated that prophylactic antibiotics prevent endocarditis after invasive procedures.
- Risk factors appear to be presence of structural heart defect, NOT the dental procedure.
- Epidemiologic studies: less than 10% of IE is prevented by antibiotic prophylaxis.
- Less than 5% of IE are actually preceded by a dental procedure (not a proof of causation).

Antibiotics: what’s the big deal?

- Development of antibiotic-resistant bacterial pathogens
- C. difficile infections
- Severe allergic reactions
- Costs: malpractice litigation, additional medical and dental office visits
Who does NOT need antibiotic prophylaxis...

• Patients with pacemakers/defibrillators
• Patients with vascular grafts, including dialysis grafts
• Patients with endovascular grafts
• Patients with coronary stents
• Patients with Vena Cava filters
• Patients with VP shunts
• Patients with breast implants
• Patients with prosthetic joints
• Pregnant patients
May need antibiotic prophylaxis...

- Immunocompromised patients?
So, your patient

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- Is Immuno-compromised
Immunocompromised: what’s the big deal?

- High risk of infection
  - Depends on degree of immunosuppression

- High risk of malignancy
Immuno-compromised populations

- Disorders of biochemical homeostasis
- Disorders of protein loss
- Immunosuppressive therapy
- Malignancy
- Autoimmune diseases (Lupus, Rheumatoid arthritis)
- Viral infections (HIV)
- Asplenia/hyposplenism
Disorders of biochemical homeostasis

DIABETES
CHRONIC KIDNEY DISEASE/UREMIA
CIRRHOSIS
MALNUTRITION
Disorders of protein loss

NEPHROTIC SYNDROME

PROTEIN-LOSING ENTEROPATHIES
Immunosuppressive therapy

- Cytotoxic chemotherapy for malignancy
- Autoimmune disease treatment
- Treatment of rejection after solid organ transplantation
- Treatment/prophylaxis of graft-vs-host disease after bone marrow transplant
Malignancy

- Hodgkin disease
- Chronic lymphocytic leukemia
- Multiple myeloma
- Solid tumors
Immunocompromised populations

- Autoimmune Diseases (Lupus, Rheumatoid Arthritis)
- Viral Infections (HIV)
- Asplenia/Hyposplenism
Immunocompromised

• Do they need antibiotics before dental procedures?
So, your patient

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- Has diabetes
- Needs Antibiotics
- Is Anticoagulated
- Is Immuno-compromised
- Is on bisphosphonates
Bisphosphonates: indications

- Osteoporosis
- Sometimes: Osteopenia
- Patients on chronic corticosteroids
- Paget’s disease
- Cancer patients with bone metastases
IV vs PO therapy: risks differ

- **Zolendronic acid vs placebo:** 50-100x risk of osteonecrosis (1% (1 case per 100))

- **Oral bisphosphonate therapy:**
  - Short term: 0.1% (1 cases per 1000)
  - >4 years: 0.21% (1 cases per 500)

- **Difference is the dose:**
  - Zolendronic acid dose is 10x higher than doses of PO bisphosphonates
Drug holiday? No Data!

Recommendations:

- ADA (2011): if on meds <2 years, continue during invasive dental treatment
- ONJ Task force (2013): drug holiday if >4 years on meds or risk factors (RA, long term steroids, DM, smoking)
- AAOMS (2014)
  - Optimize dental health before IV bisphosphonates
  - PO bisphosphonates <4 years and no risk factors: no holiday
  - PO bisphosphonates <4 years but with risk factors: 2mo holiday before, restart once bone heals
  - PO bisphosphonates >4 years: 2mo holiday before, restart once bone heals
- AACE (2016): delay initiation until dental issues are corrected. No evidence for drug holiday, but consider.
Bisphosphonate Drug Holiday: Summary

- No Data
- Consider drug holiday if:
  - On meds >4 years
  - Risk factors for osteonecrosis
- How long???
  - All patients on bisphosphonates?
Incidence of chronic illness increases with age
Many of your patients will have special considerations in their dental care
Know how to properly check a blood pressure, and when to send to ER
Have a source of glucose in your office
Most patients do not need anticoagulation interruption
Most patients do not need prophylactic antibiotics
Incidence of osteonecrosis in patients with PO bisphosphonates is low
When in doubt, call their primary care doctor (and have low threshold to do so)
Questions?