



CARDIOVASCULAR CONSIDERATIONS IN THE GERIATRIC PATIENT WITH CANCER

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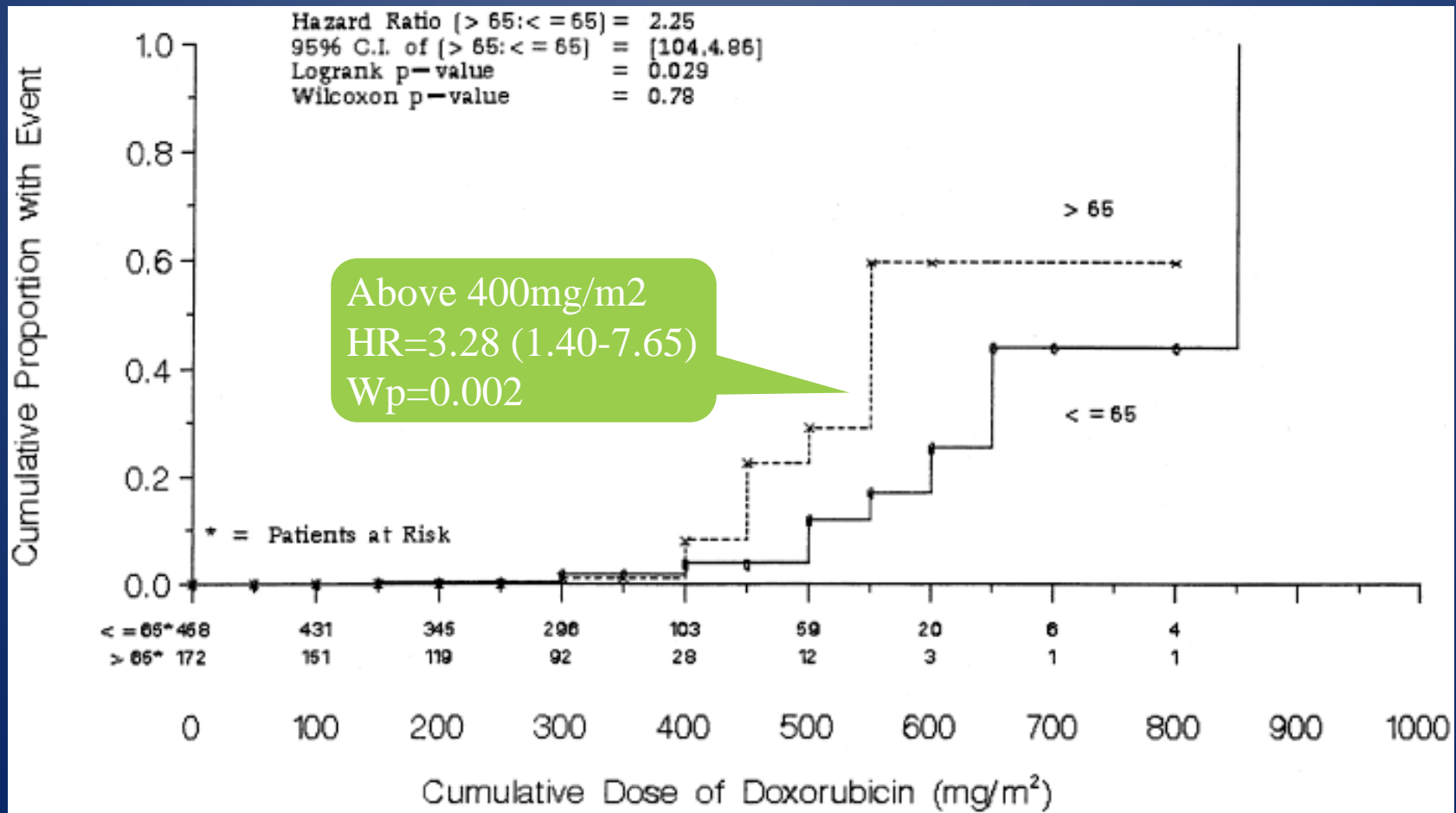
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“JEOPARDY” CATEGORIES

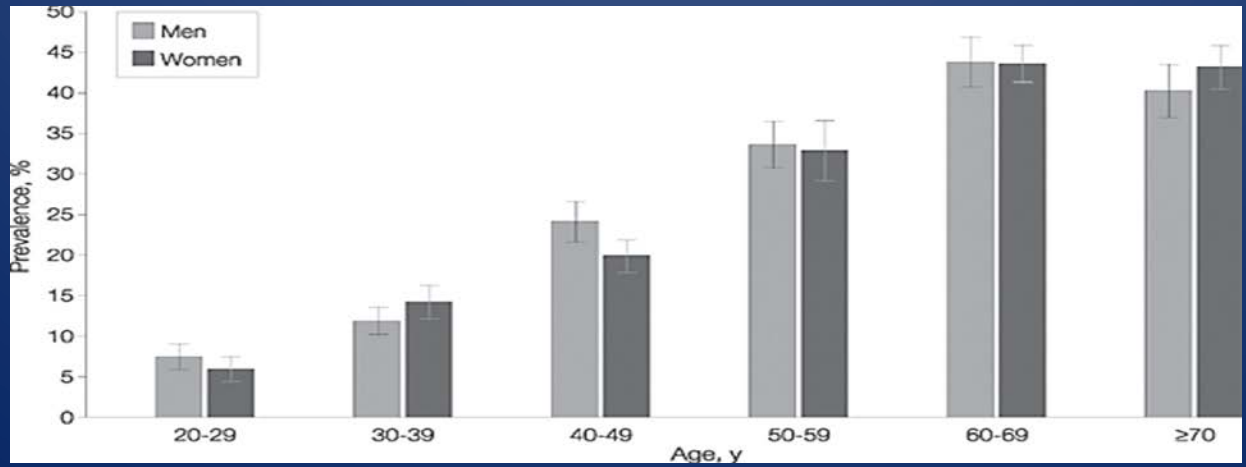
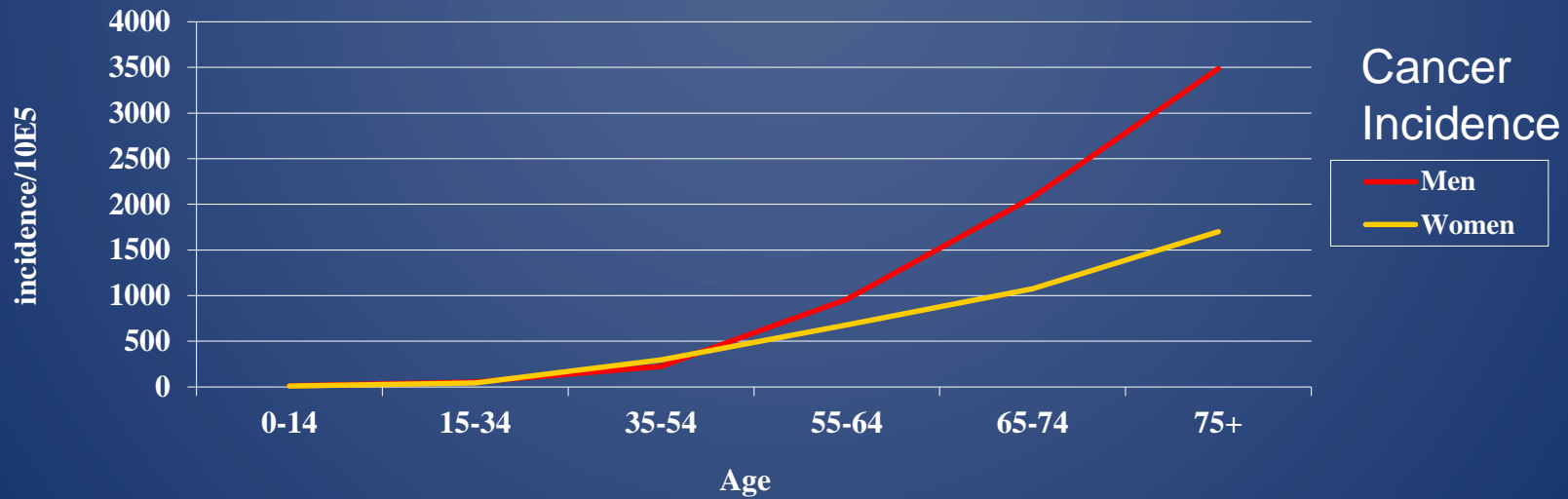
- Age as a risk factor (is it?)
- Drug mix
- Hypertension
- CVD before cancer
- CVD after cancer



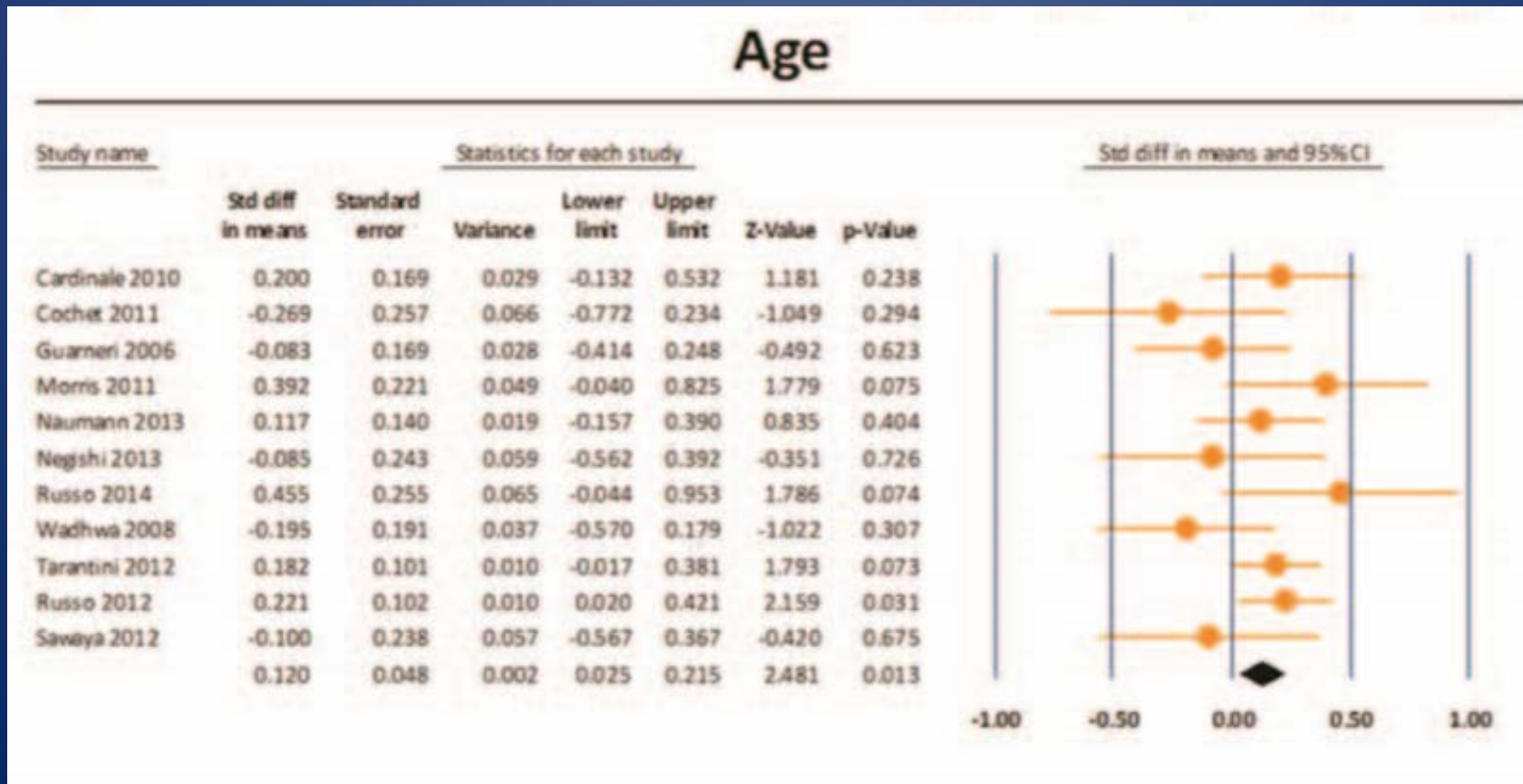
AGE AND CARDIAC TOXICITY



AGE, MS AND CANCER



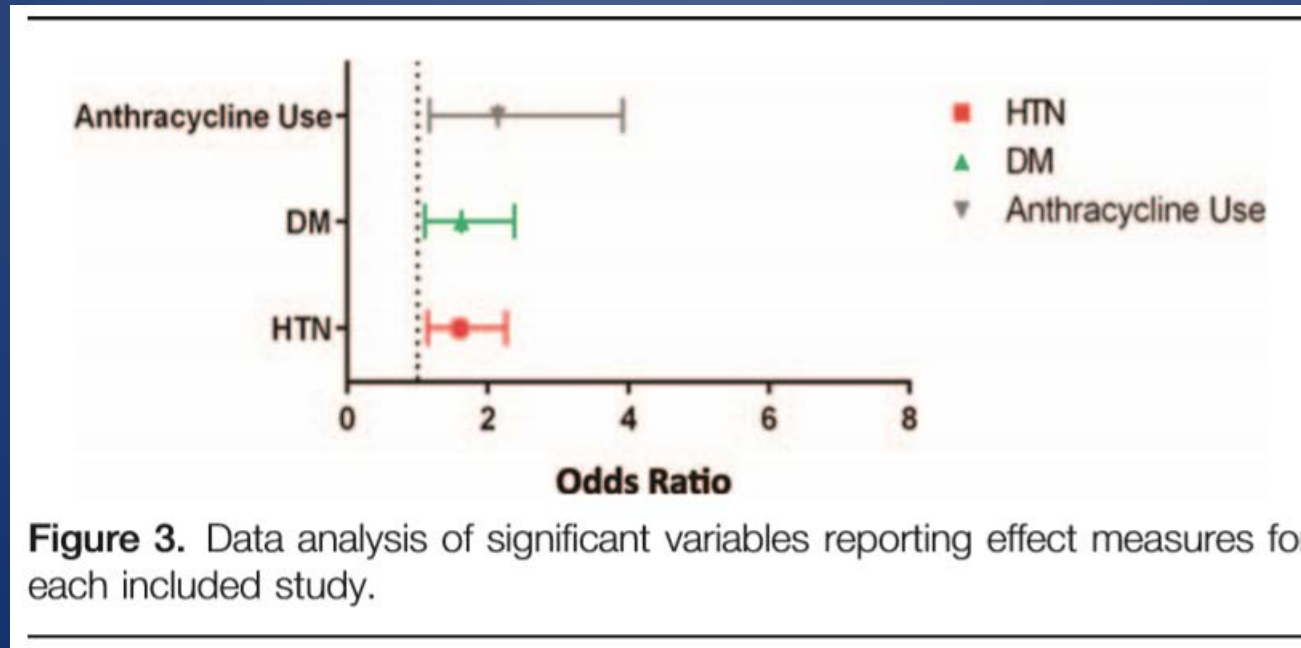
AGE & COMORBIDITY AND CARDIAC TOX. TRASTUZUMAB



P = 0.013

Jawa et al., Medicine 2016

AGE & COMORBIDITY AND CARDIAC TOX. TRASTUZUMAB



OBESEITY AND CARDIOTOXICITY

- Network SR/MA for anthracyclines +/- subsequent trastuzumab toxicity
- 15 studies, BC 8745 patients
- OR for BMI >25: 1.38 (1.06-1.80)
- NB: not adjusted for obesity-associated comorbidity

DRUG INTERACTIONS AND CHEMOTOXICITY

Table 4. Logistic regression models predicting likelihood of experiencing grade 3-4 non-hematological toxicity

	OR	%95 CI	R ²
Total PDI level 1-5	1.07	0.983-1.164	0.13
Total PDI level 1-3	1.17	1.009-1.346	0.14
Total level 1 PDI	1.94	1.213-3.098	0.16
Total level 2 PDI	1.12	0.931-1.352	0.13
Level 1-5 PDI involving chemotherapeutics	1.27	0.991-1.627	0.14
Level 1 PDI involving chemotherapeutics	3.01	1.301-6.972	0.15
Level 2 PDI involving chemotherapeutics	1.02	0.552-1.882	0.12

Note: All models are adjusted for age, gender, body mass index, blood pressure, Eastern Cooperative Oncology Group performance status, aspartate aminotransferase, albumin, bilirubin, creatinine clearance, red blood cell count, bone marrow invasion, stage, and MAX2.

ANTICOAGULATION INTERACTIONS

- 1 mg warfarin/d prophylaxis for ports
- 5-FU based regimens cause protein displacement
- Data with new oral anticoagulants?

Table 1. Incidence of INR Alteration According to Patient Characteristics and Chemotherapy Regimens

	No. of Patients	INR > 1.5	
		No.	%
Total no. of patients	95	31	33
Sex			
Male	53	15	28
Female	42	16	38
Central venous catheter			
Groshong	79	25	32
Port-a-Cath	16	6	38
Primary tumor			
Colon	79	26	33
Gastric	10	3	30
Other	6	2	33
Metastatic disease	64	22	34
Liver metastases	41	12	29
Chemotherapy			
Fluorouracil, leucovorin	40	11	28
Oxaliplatin, fluorouracil, leucovorin	21	12	49
Irinotecan, fluorouracil, leucovorin	19	5	26
Cisplatin, epirubicin, fluorouracil	5	2	
Fluorouracil i.c.	5	1	
Other fluorouracil regimens	5	—	—

NOTE: χ^2 test was performed on the 80 patients who received the de Gramont, FOLFOX, and FOLFIRI regimens, 6.068; $P = .041$.

Abbreviations: INR, International Normalized Ratio; FOLFOX, fluorouracil, folinic acid, oxaliplatin; FOLFIRI, fluorouracil, folinic acid, and irinotecan.

TARGETED THERAPIES

- Many targeted therapies interact with C-V drugs, e.g. amiodarone (p450 metabolism, QT prolongation)
- CDK 4/6 inhibitors (ribociclib > palbociclib), QT prolongation
- Ibrutinib, 6-16% risk of atrial fibrillation. In one study, elderly men were more at risk (beside preexisting cardiac conditions) (Reda et al. J Hematol Oncol, 2018). Also risk of bleeding.

VEGF INHIBITORS

- Increased hypertension, bleeding, thromboembolic events
- In lung adenocarcinoma, the toxicity cancels the OS benefit of bevacizumab in patients ≥ 75 yo (*Langer et al, Am J Clin Oncol, 2016*)
- Due notably to G3 bleeding (>75 : 14% vs 2%; <75 : 3% vs 0%)

HYPERTENSION: HIGHLY AFFECTED

GENERAL

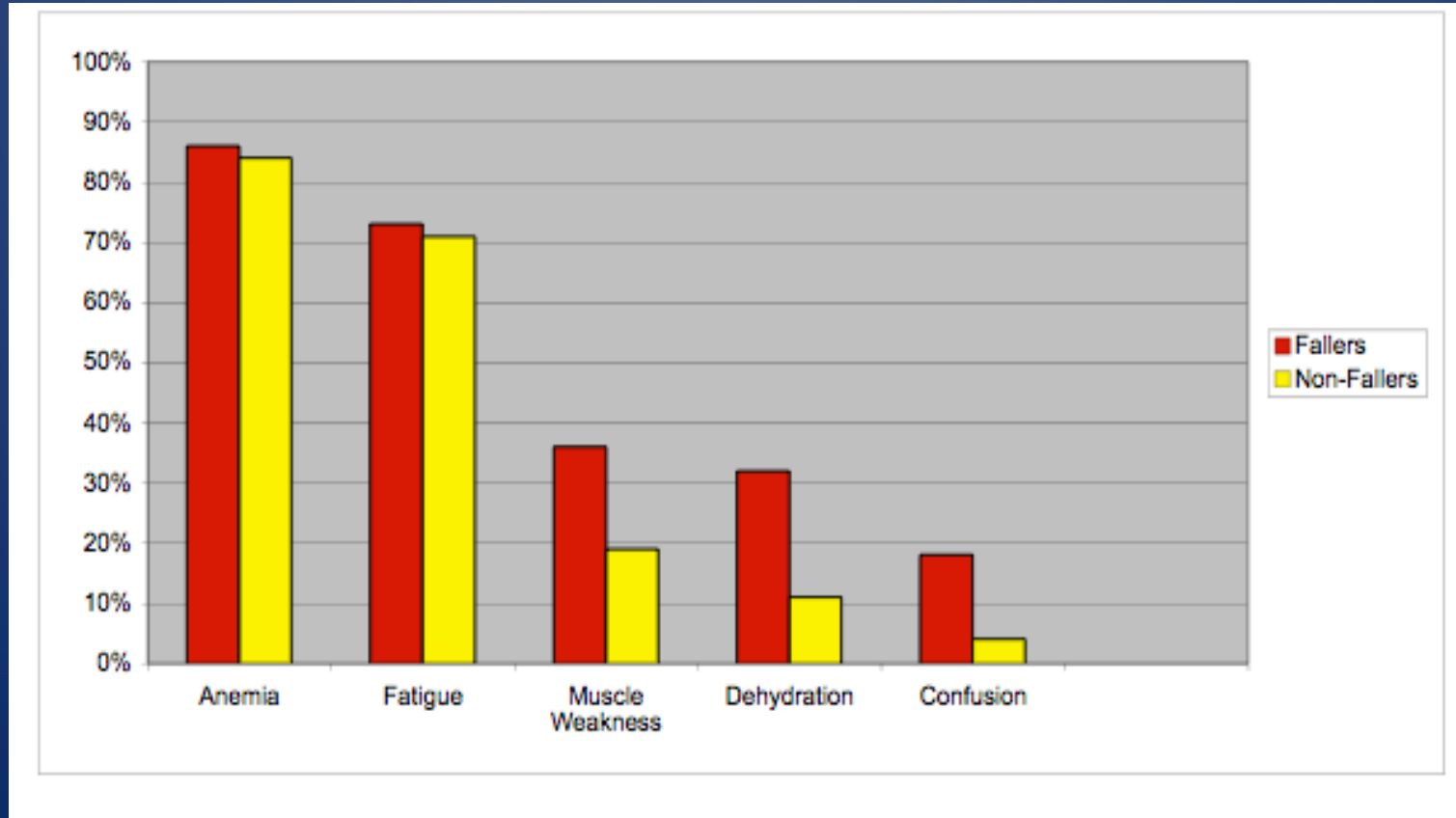
- Decreased appetite
- Weight loss
- N/V/D

DRUG SPECIFIC

- Vincristine etc...autonomous neuropathy
- VEGF inhibitors: HTN
- Steroids

Take home message: Watch and adjust BP meds

FALLS DURING CHEMOTHERAPY



Boler et al., SIOG 2007

TREATING DLBCL IN PATIENTS WITH CHF

- A retrospective cohort of adult DLBCL patients (n=854) uncovered 38 patients with baseline CHF (4.4%) by echo/MUGA
- Median age 71 (21-93), median follow-up 21.2 months (1.4-50.8)
- Patients with diastolic dysfunction were more likely to receive R-CHOP-like regimens, compared to patients with systolic dysfunction
- 56.5% of patients treated by R-CHOP completed treatment (mean cumulative dose of doxorubicin 130 mg/m²) vs 90% of non-R-CHOP (p=0.11)
- Cardiac events 25% in R-CHOP group vs 18% in non-R-CHOP (NS)

COLORECTAL CANCER, CVD AND CHF

CRC stage I-III vs without, SEER/Medicare

Median age 78 (66-106), median follow-up 8 years

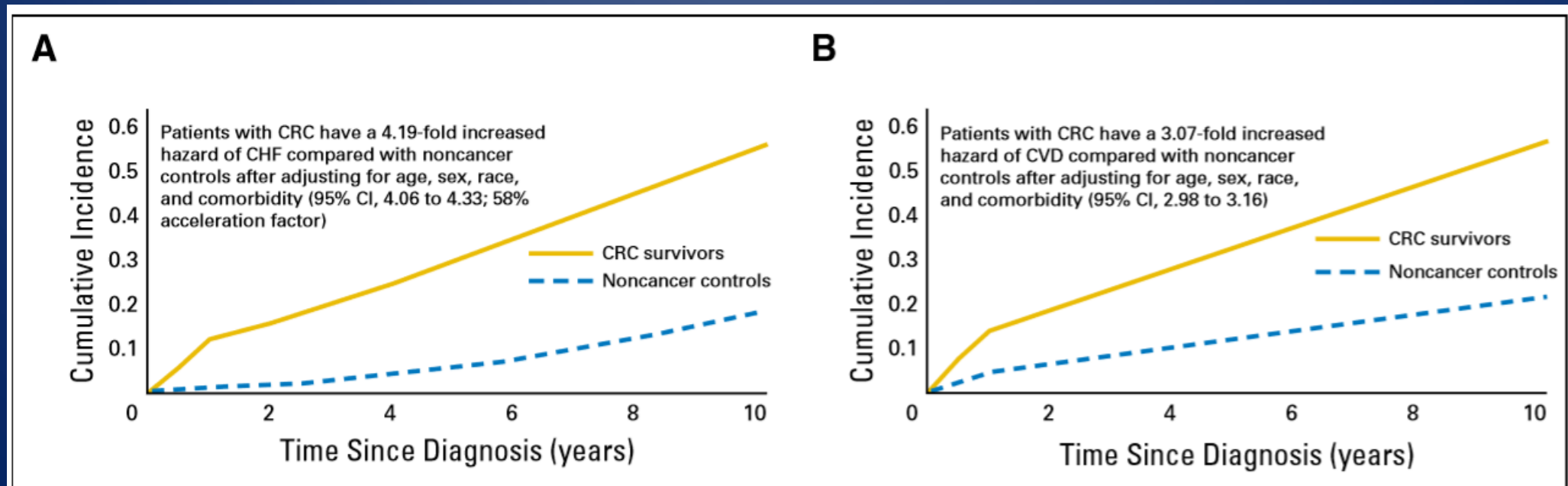


Fig 2. Cumulative incidence of (A) congestive heart failure (CHF) and (B) cardiovascular disease (CVD). CRC, colorectal cancer.

WHAT IS THE ROLE OF CHEMOTHERAPY?

- 10y cumulative incidence CVD 57.4% vs 22%
- 10y cumulative incidence CHF 54.5% vs 18%
- Interaction between HTN and chemo significant for CVD
- Interaction between diabetes and chemo significant for CHF

CONCLUSIONS

- Beware of drug interactions
- Orthostatic hypotension can be an initial sign of neuropathy
- Be ready to adjust C-V treatments quickly as older patients have less C-V reserve.
- Cancer and its treatments increase the risk of CV morbidity in older survivors



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2018

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“Geriatric oncology – becoming mainstream cancer care”



Abstract submission deadline: **JUNE 8, 2018**

Early registration deadline: **JUNE 19, 2018**

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