Screening and Treatment of Cardiovascular Comorbidities among Patients with Prostate Cancer who Start Androgen Deprivation Therapy

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Introduction

Androgen deprivation therapy (ADT) is associated with an increase in cardiovascular (CV) events among patients with prostate cancer (PC).¹ CV comorbidities and risk factors screening is mandated according to international and local guidelines.² Mexico has one of the highest rates of metabolic syndrome,³ and we lack local studies that evaluate compliance with these guidelines in our PC population.

Methods

Retrospective chart review of patients with PC who started ADT in a single institution from January 2013 to January 2018. We evaluated the screening of CV comorbidities and risk factors from the previous 12 months to the first 3 months since ADT initiation. Implemented therapeutic interventions based on abnormal findings in screening were also assessed.

Results

100 patients were included, baseline characteristics are described in **Table 1**. Screening of CV comorbidities and risk factors is depicted in **Figure 1**. Compliance with international guidelines' recommendations is shown in **Table 2**. 41% of patients had no other specialist for CV control; 30%, 23% and 6% had one, two or three specialists involved, respectively. Specialists' consultations are depicted in **Figure 2**. With a median follow-up of 23 (Range 6-63) months, 6% of patients had major CV adverse events: 1% myocardial infarction, 2% stroke and 3% pulmonary embolism.

Table 1: Baseline Characteristics

Characteristic	Frequency, N (%)
Mean age (Range)	69.1 (47-89) years
Stage	
Localized	4 (4%)
Locally advanced	28 (28%)
Metastatic	68 (68%)
Risk (in non-metastatic patients)	
Intermediate	5 (15.6%)
High	27 (84.4%)
Type of ADT	
GnRH analog	83 (83%)
GnRH antagonist	2 (2%)
Antiandrogen	4 (4%)
Orchiectomy	2 (2%)
GnRH analog + Antiandrogen	9 (9%)
Previously diagnosed CV comorbidities	
Arterial hypertension	40 (40%)
Dyslipidemia	28 (28%)
Type 2 diabetes mellitus	25 (25%)
Ischemic cardiomyopathy	10 (10%)
Number of previously diagnosed CV comorbidities	
0	42 (42%)
1	28 (28%)
2	19 (19%)
3	7 (7%)
4	4 (4%)
Median 10-year CV risk* (Range)	16.05% (2.5-54.1%)

*Patients with complete data for calculation (N=74), according to ACC/AHA calculator.

Table 1: Screening of CV comorbidities and risk factors

Table 2: Compliance with international guideline recommendations

Therapeutic intervention	Compliance	Other studies
Diet*	42%	46-90%
Exercise*	38%	57-92%
Smoking cessation strategies*	45%	31-69%
Acetylsalicylic acid use [†]	34%	34-35%
Diabetes pharmacotherapy [‡]	100%	66-91%
Hypertension pharmacotherapy [‡]	90%	51-67%
Dyslipidemia pharmacotherapy [§]	36%	26-28%

*2013 AHA/ACC Guideline on Lifestyle Management to Reduce Cardiovascular Risk.
[†]2016 Aspirin Use for the Primary Prevention of Cardiovascular Disease and Colorectal Cancer: U.S. Preventive Services Task Force Recommendation Statement.
[‡]2018 American Diabetes Association Standards of Care.
[§]2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults.
[§]2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol.

Figure 2: Specialists' consultations (N=59)

Conclusions

Screening of CV comorbidities in this Mexican cohort with PC is suboptimal, although greater than reported by similar studies. Treatment adherence to guidelines' recommendations contrasts with data from cardio-oncology clinics. This real-world setting report stresses the necessity to develop interventions to overcome the unmet needs in our PC population, as resources are scarce.