

ACUTE KIDNEY INJURY ACKNOWLEDGE BETWEEN MEXICAN PHYSICIANS AND STUDENTS, HOW ARE WE DOING?

AKI & CRRT Conference

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Introduction

Acute kidney injury (AKI) is a common pathology, with a high incidence and a high impact when is not well and early recognized. Even when the definition and importance of an early recognition should be taught and learned in medical school, as well as the awareness of AKI in some pathologies, there still is a misconception of the definition, and identification of AKI between the non-nephrologist physicians. The standardization of the identification of AKI risks and its approach is important to improve healthcare and perform a precision medicine centered in the patient. Thus, the first step is to suspect and then the recognition of AKI.

Methods and Materials

We perform a survey where the participants (medical students and physicians from different specialties in Monterrey, Mexico) were able to access Google Forms through a link. We evaluate the physician's knowledge of AKI using 10 questions with 1 correct answer (except for the No. 8 that had multiple answers and was consider correct when the responder chooses all the options):

- Which of the following classifications is correct to define Acute Kidney Injury?
 - KDIGO**
- What is the definition of acute kidney injury?
 - Elevation of basal creatinine ≥ 0.3 mg/dl in 48 hrs, elevation of creatinine 1.5 times the known basal value in the last 7 days or a decrease in urine volume < 0.5 ml/kg/hr for 6 hrs.**
- What is considered the first cause of acute kidney injury?
 - Hypovolemia**
- Which of the following parameters indicates acute deterioration of renal function?
 - Serum creatinine**
- Which of the following renal replacement therapy modalities is used in hemodynamically unstable patients?
 - Continuous renal replacement therapy**
- What is the ideal management of acute kidney injury?
 - Correct the underlying disease or cause.**
- Do you consider urinary sediment as a diagnostic tool for acute kidney injury?
 - Yes**
- Which of the following are considered risk factors for the development of acute kidney injury?
 - Diabetes, hypertension, personal history of CKD, personal history of preeclampsia, personal history of AKI, prematurity at birth**
- How do you define temporality of kidney disease? (AKI, AKD, CKD)
 - AKI 1 - 7 days, AKD from 7 to 90 days and CKD >90 days**
- Which of the following situations warrants urgent renal replacement therapy?
 - Metabolic acidosis refractory to treatment**

Descriptive statistics were used.

RESULTS

101 responders answer our survey, the obtained results are presented in the Table 1.

Variables	n=101 (%)	Students (n=36)	Social Service (n=14)	Resident in surgical field (n=16)	Resident in clinical field (n=31)	Graduated physician (n=4)
Age	Mean 26.13	23	24	28	28	36
Sex	Female 53 (52.5)	22 (61.1)	8 (57.1)	10 (62.5)	12 (38.7)	1 (25)
Academic achievement	Student 36 (35.6)					
	Social Service* 14 (13.9)					
	Resident in surgical field 16 (15.8)					
	Resident in clinical field 31 (30.7)					
	Graduated physician 4 (4)					
Questionnaire results						
1°	56 (55.4)	18 (50)	6 (42.8)	9 (56.2)	21 (67.7)	2 (50)
2°	72 (71.3)	19 (52.7)	8 (57.1)	12 (75)	30 (96.7)	3 (75)
3°	80 (79.2)	22 (61.1)	13 (92.8)	15 (93.7)	27 (87)	4 (100)
4°	91 (90.1)	33 (91.6)	10 (71.4)	14 (87.5)	30 (96.7)	2 (50)
5°	50 (49.5)	12 (33.3)	11 (78.5)	2 (12.5)	23 (74.1)	3 (75)
6°	98 (97)	35 (97.2)	14 (100)	15 (93.7)	31 (100)	2 (50)
7°	57 (56.4)	19 (52.7)	8 (57.1)	7 (43.75)	21 (67.7)	3 (75)
8°	DM 76 (75.2)	27 (75)	8 (57.1)	12 (75)	25 (80.6)	4 (100)
	Hypertension 82 (81.2)	29 (80.5)	12 (85.7)	12 (75)	25 (80.6)	4 (100)
	History of CKD 70 (69.3)	25 (69.4)	11 (78.5)	8 (50)	24 (77.4)	3 (75)
	History of preeclampsia 52 (51.5)	21 (58.3)	6 (42.8)	7 (43.7)	17 (54.8)	1 (25)
	Previous episodes of AKI 90 (89.1)	33 (91.6)	14 (100)	13 (81.2)	28 (90.3)	2 (50)
	History of preterm at birth 35 (34.7)	13 (36.1)	6 (42.8)	2 (12.5)	14 (45.1)	1 (25)
9°	74 (73.3)	26 (72.2)	8 (57.1)	10	27 (87)	3 (75)
10°	90 (89.1)	29 (80.5)	13 (92.8)	13	31 (100)	4 (100)

*In Mexico the last year of medical school is called social service.

Results

The students, graduated physicians, and residents in surgical residency had an average of 6/10 questions correct. Those who are doing their social service, had an average of 7/10 correct questions, and those in clinical residency had an average of 8/10 questions. The fifth question had the most incorrect answers, along with the eight question, that had multiple choices and only 24 respond all the correct ones. 38 (37.6%) of the responders still use RIFLE and AKIN definitions for AKI. Less than half of the responders recognize preterm birth as a risk factor for AKI, and almost half didn't recognize history of preeclampsia as a risk factor too.

Conclusions

There is still a gap of knowledge in AKI recognition, diagnosis, and proper management. It is important to use technology, teamwork, and interdisciplinary educational meetings or conferences interactions as opportunities to explore the knowledge and teach around AKI in other medical areas and develop educational programs that will help us to identify and treat AKI early.



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