



Intravenous Drug Use Related Upper Extremity Infections – Demographics and Clinical Impact



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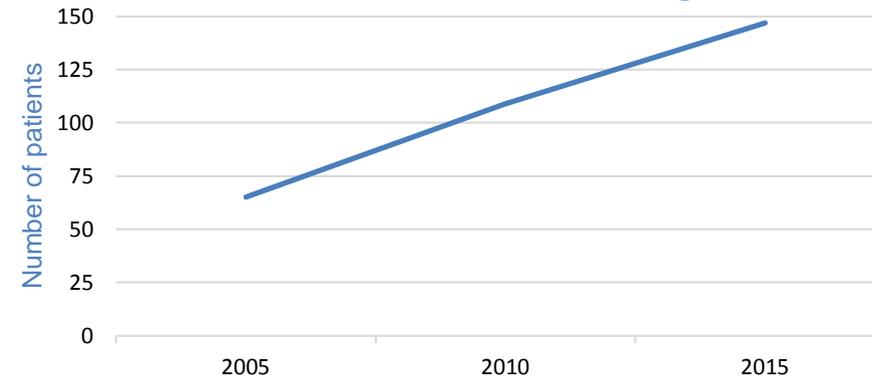
Introduction

- The incidence of IVDU-associated complications, including infections, has risen over the past 10 years.
- The purpose of this study was to estimate the differences in demographics, treatment course, and outcomes associated with upper extremity infections in patients with IVDU compared to non-IVDU.

Methods

- **Retrospective case-control study** investigated patients who presented with an upper extremity infection at our level 1 emergency department in 2015, 2010, and 2005
- In 2015, **147 patients** were found to have an IVDU-related infection and were randomly **matched with 147 controls** (upper extremity infection without history of IVDU) based upon age, sex, and race.
- Compared demographics, patient factors (tobacco use, employment status), infection specifics (location, type), and treatment parameters (type of intervention, length of stay, use and extent of imaging) between the two groups.
- McNemar’s test for paired dichotomous variables, McNemar-Bowker’s test for symmetry for paired nominal variables, and paired t-test for paired continuous variables.

Number of IVDU Cases Presenting to the ED



Demographics and Treatment Parameters in 2015

Characteristic	IVDU (n = 147)	Non IVDU (n=147)	P
Diagnosis			
Cellulitis, n(%)	91 (62)	62 (42)	0.002
Abscess, n(%)	88 (60)	47 (32)	<0.001
Other diagnosis, n(%)	12 (8.2)	48 (33)	<0.001
Infection location			
Finger, n(%)	8 (5.4)	49 (33)	<0.001
Hand, n(%)	40 (27)	21 (14)	0.008
Wrist, n(%)	17 (12)	3 (2.0)	0.002
Forearm, n(%)	43 (29)	20 (14)	0.001
Elbow, n(%)	38 (26)	17 (12)	0.003
Shoulder, n(%)	10 (6.8)	31 (21)	0.001
Total locations per patient, mean (SD)	1.2 (0.50)	1.0 (0.16)	<0.001
Days of stay in hospital, mean (SD)	3.0 (5.3)	0.59 (2.8)	<0.001
Number of ED admission, mean (SD)	1.6 (1.1)	1.2 (0.54)	<0.001
Treatment			
Patients who underwent I&D, n(%)	92 (63)	72 (49)	0.031
Patients who received AB iv, n(%)	82 (56)	46 (31)	<0.001
Imaging			
CT, n(%)	17 (12)	2 (1.4)	<0.001
Number of radiographs, mean (SD)	0.73 (1.5)	0.27 (0.54)	<0.001
Infection, n(%)			
MRSA	20 (14)	8 (5.4)	0.009
MSSA	15 (10)	9 (6.2)	
No	112 (76)	130 (88)	

Results

- The rate of IVDU in all upper extremity infections was **11%**.
- The incidence of an IVDU-related upper extremity infection has increased over the last 10 years.
- Infection location in the IVDU group was more likely to be in a **typical injection site** (e.g., forearm, wrist), whereas the infection location in the non-IVDU group was more often at other sites (e.g., finger).
- The IVDU group had **33% more hospital admissions** and a **longer admission**
- Patients with IVDU related infections were more likely to undergo **surgical I&D** and more often received **intravenous antibiotics**.

Conclusion

- The treatment of upper extremity IVDU related infections results in greater utilization of healthcare resources compared with non-IVDU patients.
- There is an increased burden for physicians and for our healthcare system, particularly in the setting of the current opioid crisis.
- The hand and upper extremity are highly susceptible to IVDU infections given the common sites of injection.