



Introduction

- Methamphetamine (meth) is the second most popular illicit drug worldwide with increasing prevalence in the United States.
- Psychiatric side effects of the drug are often the cause of (self-inflicted) injuries among meth positive patients
- The effects of stimulant intoxication on acute care microneurosurgical reconstruction is unknown.

Methods

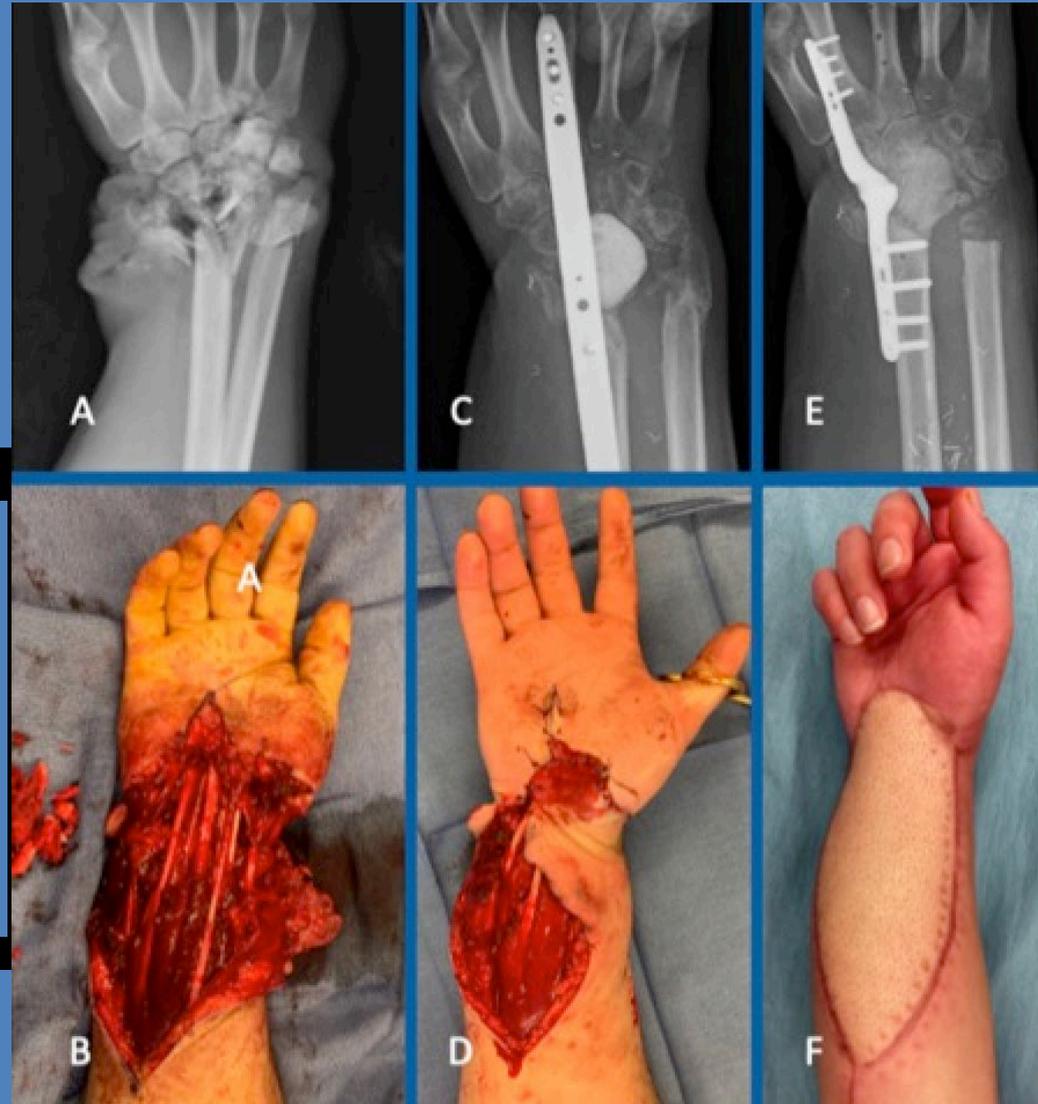
- All trauma admissions from level 1 University trauma center in 2019.
- Patients undergoing microneurosurgical operations to the upper extremity were selected and compared based on the presence of a positive urine toxicology screen for Methamphetamine.

Results:

4402 trauma patients

- 545 (12.8%) + stimulant narcotics
- 108 w/ upper ex injuries
- 48 patients for microneurosurgical procedure
- 8 (16.7%) + meth

Figure 1: Reconstruction in 24 year-old blast injury, + Meth with Bipolar disorder



(A) Preoperative Xray with traumatic proximal row carpectomy. (B) Dysvascular hand on presentation. (C) Temporizing spanning plate and spacer construct. (D) Reperfused hand utilizing saphenous vein graft with remaining large soft tissue defect and exposed carpal tunnel. (E) Eventual wrist arthrodesis, Darrach and (F) Neurotized anterolateral thigh flap for coverage.

Results Cont.

8 (16.7%) + meth more likely:

- male (p<0.01)
- concomitant tobacco & etoh (p=0.01)
- coexisting psych problems 75% vs 11.7% (p=0.004)
- high risk activities (62% vs 22.5%, p=0.04)
- Spaghetti wrist (75% vs 7.5%; p<0.01)
- Intraop vasospasm requiring intervention (62% vs 16%; p<0.01)

No difference between non meth and meth users in rates of digital ischemia, replantation loss, flap loss, need for revision amputation and or microvascular collapse.

- Overall revascularization and replantation success rate in the cohort was 89% with five failures.
- Sources of failure: blunt or blast mechanisms (OR 4.5; p<0.05) and longer operative time (322 vs 222 minutes; p<0.01).

Conclusion

- Utox + screen for stimulants should not preclude consideration of microsurgical reconstruction in the setting of mutilating injuries of the upper extremity.
- Be ready to manage vasospasm that is present in the majority of methamphetamine users.