Surgical Outcome after Femoral Vessels Ligation in I/V Drug Users

I U R KHAN M A SHAFIQ B A KHAN
Department of surgery, King Edward Medical College/Mayo Hospital, Lahore
Correspondence to Dr. Intesar ur Rashid Khan Senior Registrar

Intravascular drug abuse is being practiced with increasing frequency in our country, resulting in dreadful complications. A common complication of intravenous drug users is traumatic damage to tissues and organs secondary to injections, which depends on a number of factors which are difficult to quantify; local drug practices, the skill of the injector and the susceptibility of the individual. **Objective:** To study the incidence, limb complications and indications for limb amputation in intravenous drug abusers. **Methods:** A descriptive study on nineteen intravenous drug abusers was carried out at department of Surgery, Mayo hospital Lahore. **Results:** Entire limb survived in Eleven patients , Four had toe amputations , Three ended in below knee amputation and One in above knee amputation. Conclusion: Most of the affected limbs can survive despite the major vessels being tied due to development of collateral circulation
Key Words: IDU (Intravenous drug usage), Infective Aneurysm, Amputation.

Intravascular drug abuse is being practiced with increasing frequency in our country, resulting in dreadful complications. The gravity of this scenario stem from the fact that a wide range of drugs are being self administered and the medical advice is sought very late. A common complication of intravenous drug users is traumatic damage to tissues and organs secondary to injections, which depends on a number of factors which are difficult to quantify; local drug practices, the skill of the injector and the susceptibility of the individual.

The commonest trauma associated with IDU is the physical damage from frequent injecting also known as tracking or track marks - the hall mark of IDU. The cutaneous stigmata of IDU may also be associated with pigmentation of the skin or even scarring around superficial blood vessels. There are often also scars of superficial abscesses which are more common with subcutaneous injections (skin popping) of drugs than with intravenous drug use. The associated abscesses may be extensive and infected with micro-organisms or a purely chemical reaction to the substances injected.

Individuals who lose superficial venous access may turn to injecting the deep limb or neck veins with more consequent increased risks of damage to adjacent tissues False aneurysms of the femoral artery may complicate intra-arterial injections and these aneurysms may become infected and produce life threatening hemorrhage. The inadvertent injection of drugs into the arterial circulation may result in vascular spasm with loss of distal tissue due to anoxia. This may be complicated by infections (gas gangrene or tetanus), muscle swelling (compartment syndrome) and rhabdomyolysis which may lead onto renal failure. Such complications often require surgery in the form of decompression of muscle compartments or amputation depending on the severity.

The underlying explanation for an increased susceptibility of drug users to infection is not well understood. Obviously, breaching the defenses of the skin increases susceptibility to infection. Unsterile syringes and environment exposes the individual to recurrent episodes of bacterial infection. Opiates, however administered are known to reduce or depress the cough reflex which increases the susceptibility of the individual to aspiration pneumonia. In addition opiates also impair the immune system. Morphine given to mice reduced the numbers of neutrophils and macrophages as well as their efficiency in phagocytosing and killing Candida albicans. Morphine treated mice succumbed more rapidly to Klebsiella pneumoniae peritonitis and a depressed lympho-proliferative response to mitogens was noted in the presence of opiates. Morphine treated mice also develop marked atrophy of the spleen, thymus, lymph nodes and bone marrow as well as a reduced lymphocyte helper/suppressor ratio within 24 hours. The effects were maximal at three days but took 20 days to reverse completely.

Fig 1:Ruptured pseudo aneurysm right femoral artery

Fig 2: Fasciotomy after vessel ligation (limb did not survive)

Fig 3: Limb survival after vessel ligation.

Material and methods:

This study wad carried out on a sample of male patients presenting in emergency mayo hospital from Jan 2003 to Nov.2004 with ruptured femoral aneurysms. All patients underwent primary ligation of femoral vessels and extensive debridement of surrounding infected tissues.. All patients were observed post-operatively for signs of limb ischemia and were offered treatment accordingly.

Results:

Table 1: Age distribution

Age	n=	%age
15-25	12	63.15
26-45	05	26.31
46-60	02	10.52

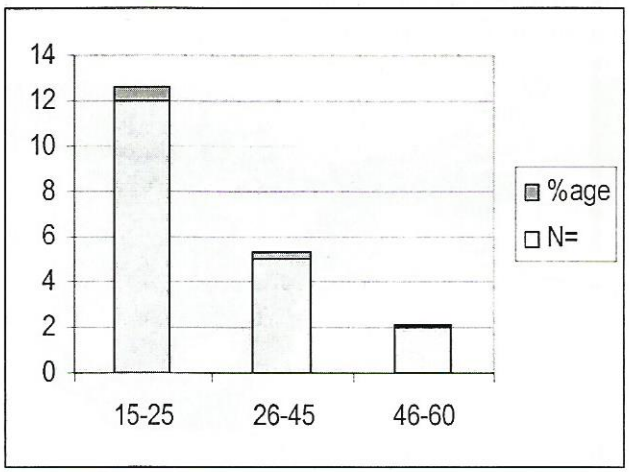

Table 2: Treatment offered to patients

Treatment planned	n=19	%age
Primary Debridement & vessel ligation	19	100
Primary debridement and vascular graft	00	00
Excision followed by interposition graft later on	02	10.52
Need for limb Amputation	08	42.10

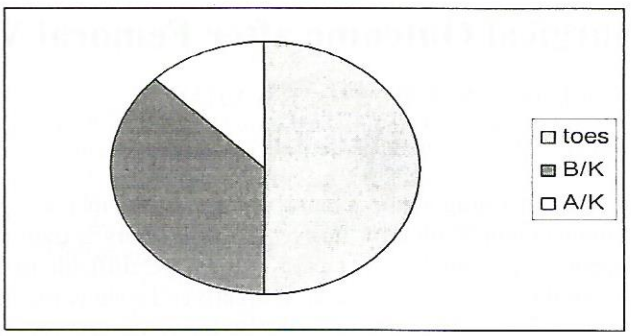

Table 3: Level of amputation

Toes only	04	21.05%
Below knee	03	15.78.%
Above knee	01	5.26%

Complications of frequent injections, (e.g., Tract marks and skin scars, thrombophlebitis, Deep vein thrombosis, persistent edema and occasionally venous ulcers) and misplaced injections (arterial insufficiency and compartment syndrome) were found among those who underwent amputations.

Conclusion:

The incidence of need for limb amputation increases with the age of the patient and is also related to duration of injecting, immune status and personal hygiene of patient. Primary amputation at first surgery is not recommended unless absolutely indicated, as the outcome of limb salvage cannot be predicted.

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