

2. *An Interrupted Venous Return.*

*CAUSES.* 1. Embolus—cardiac.

2. Thrombus—syphilitic endarteritis, or following acute infectious diseases.

3. Raynaud's disease—changes in vessels due to defective nerve innervation.

4. Direct injury to a vessel.

5. Cold.

6. Most common of all—tight splinting to which I shall mostly refer.

## SYMPTOMS.

Paresthesia—numbness and tingling in parts of limb affected, and perhaps combined with alternating sensations.

Severe and often paroxysmal pain in muscles followed by cramps and spasmodic jerkings.

Limb often pale, but sometimes cyanosed and cold.

Electric irritability of muscle lost after ischemic condition has lasted five hours, and the muscles are quite flaccid and powerless, as seen in operations after prolonged use of Esmarch's bandage.

After seven hours, muscular rigidity and painful contractures begin. These increase in severity, but disappear in two or three days, leaving muscle again flaccid.

Oedematous condition from more or less established collateral circulation. Muscles now tender on pressure.

Swelling gradually disappears; muscular atrophy becomes manifest, muscles being hard and firm.

Contractures follow—hand flexed at wrist, and fingers at phalangeal joint. Final contractures due to atrophy of muscles and overgrowth of fibrous connective tissue.

Atrophic changes in the skin often present.

*Course*—This depends on the duration of the primary ischemic condition. When cramps and rigidity have set in, probably no immediate recovery of the muscle is to be looked for, but short of this the muscles may readily recover, if the blood supply is restored.