Malignant Pleural Mesothelioma (MPM) is an aggressive cancer caused by occupational, environmental and indirect exposure to asbestos, material that some countries have already prohibited. Survival is less than 1 year. Diagnosis is currently a challenge and the search for early, single or combined diagnostic biomarkers continues to be performed on non-invasive samples. MicroRNAs are circulating released molecules whose expression is altered in some types of cancer, making them good diagnostic candidates in the MPM.

**Methods** A descriptive study was carried out in plasma of 6 cases of MPM and 6 controls without exposure to asbestos matched by age and sex. The samples come from a previous case-control study conducted in Mexico from 2011 to 2016. We evaluated 384 plasma microRNAs by means of RT-qPCR using the platform and QIAgen. The analysis of results was performed with the GeneGlobe program.

Results hsa-miR-1587, hsa-miR-19b-1-5p, hsa-miR-93-3p, hsa-miR-21-3p, hsa-let-7i-3p, hsa-miR-194-5p, hsa-miR-1280, hsa-miR-18a-3p, hsa-miR-133a-3p, hsa-miR-2486, hsa-miR-2467-3p, had altered expression in cases and controls

**Discussion** While some microRNAs found in this study have been associated with kidney disease, hypertension, endometriosis, liver cancer, diabetes, colorectal cancer, gastric and esophageal cancer; The microRNA hsa-let-7i-3p associated with lung cancer, liver cancer, diabetes, colorectal cancer, gastric and esophageal cancer; and the microRNA hsa-miR-194 deregulated in tumorogenesis and miR-1280 modulates cell growth, so the next step will be to validate them in a new collection of samples and perform the network of interaction in the metabolic pathways.

**Result** Laboratory: arsenic: in urine 715.0 μg/L, in blood 95 μg/L; Hb 7.1 g/dl, Hct 28%; creatinine 3.2 mg/dl, urea 149 mg/dl, urinalysis: nitrates +, proteins 500 mg/dl, haematuria. Physical examination: paraesthesia and dysesthesias of pelvic limbs, muscle strength 3/5 bilateral, electromyography of pelvic limbs: motor polyneuropathy of the type of segmental demyelination.

**Discussion** Exposure to arsenic gas without adequate personal protective equipment can lead to severe intoxication, develop of sequelae and even death. In the present case the process by which arsenic gas is produced in the workplace is compatible with the symptoms and sequelae presented by the worker, demonstrating the cause-effect work-injury relationship.