In present study 150 wound samples from patients visiting Shahid Zayed Hospital, Lahore were studied. Isolation and identification of organisms were done by using standard operating procedures in laboratory. Antimicrobial sensitivity testing was performed by disc diffusion method in accordance with National Committee for Clinical Laboratory Standards (NCCLS) guidelines. Among the patients studied, 101 (67.33%) were male and 49 (32.66%) were female. Only 64 (42.66%) patients were not infected as no growth was observed in their pus samples. Among these non-infected individuals 27 (18%) were female and 37 (24.66%) were male. Bacterial growth was observed in 86 (57.33%) samples which were 24 (16.66%) female and 62 (41.33%) were male patients.

Single bacterial pathogens were isolated from 79 (46.60%) patients and 16 (10.60%) were with more than one bacteria. Total 120 bacterial pathogens were isolated from 86 samples.

When the individual pathogens were considered Staphylococcus was isolated from 32 (21.33%), Coliform from 45 (30%), Proteus from 7 (4.66%), Pseudomonas from 6 (4.06%), Streptococcus from 42 (6.60%), Bacillus from 2 (1.33%), whereas only one (0.66%) isolate of each Entomococcus, E. coli and Klebsiella was found from wound pus samples.

The sensitivity of these bacterial isolates against different antibiotics were: Staphylococcus was found to be sensitive to Vancomycin followed by Chloramphenicol, Nitrofurantoin and Gentamycin. Penicillin and Rifampin showed opposite activity in male and female patients. Ampicillin, Tetracycline and Trimethoprim with Sulphamethoxazole were resistant to Staphylococcus. Coliform was sensitive to Imipenem followed by Amikacin, Tazoebactan + Piperacillin, Chloramphenicol, Cepfoxacin and resistant to Cefadroxil, Cefuroxime, Ampicillin and Trimethoprim with Sulphamethoxazole.

Proteus was isolated only from male patients and were 100% sensitive to Imipenem and Tazoebactan + Piperacillin followed by Amoxicillin + Clavulanic acid. Proteus showed high resistance to Cefoxime, Cefoxime, Cepiridine and Trimethoprim with Sulphamethoxazole. Pseudomonas was sensitive to Aztreonam, Tazoebactan + Piperacillin followed by Imipenem and Cefoperazone. It was resistant to Ampicillin, Amoxicillin + Clavulanic acid, Cefoxime, Cefuroxime, Cephacline and Chloramphenicol.

Streptococcus was found sensitive to Amoxicillin + Clavulanic acid, Chloramphenicol, Imipenem and Vancomycin followed by Cefoxime, Cefoxime, Cepiridine, Cefoxime and Trimethoprim with Sulphamethoxazole. It was resistant to Ampicillin and Aztreonam. Entomococcus was sensitive to Chloramphenicol and found to be resistant to all antibiotics applied. E. coli was sensitive to most of drugs used and resistant to only Cephradine and Trimethoprim with Sulphamethoxazole. Klebsiella was found to be sensitive to most applied antibiotics and resistant to Amoxicillin, Cepiridine and Trimethoprim with Sulphamethoxazole.

When ANOVA was applied on the zone of inhibition, a significant difference was observed among the different bacterial strains and the antibiotics used at P < 0.05.

From the present study, it is concluded that Staphylococcus, Coliform, Proteus and Pseudomonas are the prominent infectious agents in human wound infections. Staphylococcus is sensitive to Vancomycin and Chloramphenicol. For the Gram negative bacterial isolates, Coliform, Proteus and Pseudomonas, Imipenem is a drug of choice to inhibit the growth and is followed by Tazoebactan + Piperacillin, Aztreonam and Amikacin. As the unlimited use of antibiotics results in production of drug resistant bacteria. So there is a need of conducting such studies to evaluate the locally existing pus pathogens and to develop new products and therapeutic procedures for their inhibition.