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Original Research Article

INCIDENCE AND CLINICAL PROFILE OF MUMPS OUTBREAK IN 2024 IN A TERTIARY CARE CENTRE IN MAHABUBNAGAR, TELANGANA

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ABSTRACT

Background: Mumps is most common outbreak occurring in community. It is an acute viral infection characterized by painful enlargement of salivary glands (most commonly the parotid glands). Mumps is caused by an RNA virus of genus Paramyxovirus in the family paramyxoviridae; only one serotype is known. Most commonly occurring in school going children. Rarely complications like orchitis, oophoritis, Aseptic meningitis may occur. It has excellent prognosis with proper treatment**.** Though MR Vaccination is given the community epidemics are occurring. **Aim and Objectives**: The objective of this study is to assess the incidence and clinical pattern of MUMPS Outbreak in 2024 in a Tertiary Care Centre in Mahabubnagar; Telangana**.**

Materials and Methods: This is an observational hospital-based study done in Govt. General Hospital, Mahabubnagar from March 2024 to May 2024. Children presenting with fever, malaise, pain and swelling of parotid and sub maxillary salivary glands are included in our study. Clinical features, laboratory parameters are studied and analysed.

Results: Among the 150 cases studied, 95(63.3%) are males and 55(36.6%) females; Among them Vaccinated (90.0%) and unvaccinated (10.0%).Children who required admission are 14 cases. Orchitis a complication occurred in 1 patient. Remaining managed on Out-patient basis.No deaths occurred. Average duration of hospital stay is around 03 to 05 days.

Conclusions: Early diagnosis and supportive treatment is corner stone for good recovery in MUMPS. With proper notification and preventive measures the outbreak may be prevented. Strong clinical suspicion, early diagnosis and careful management reduces morbidity and mortality.

Key words: MUMPS, Paramyxoviridae, Orchitis, Parotid and Submaxillary salivary glands.

INTRODUCTION

Mumps virus is single stranded RNA virus belonging to paramyxoviridae, only serotype known. nucleoprotein, phosphoprotein, and polumerase together with genomic RNA replicate the virus forming the nucleocaspid. A host derived lipid bilayer sorrounds the ribonucleocaspid. within the lipid bilayer are viral neuraminidase and fusion proteins which allow cell binding and entry of virus. These fusion complexes are the main targets of virus-neutralising antibodies. the inability in genetic drift allows vaccination to most typically confer long-lasting immunity in children.[1]

As mumps is endemic worldwide, epidemic outbreaks occur often every four to five years.the mumps virus is easily transmissible through close contact, respiratory droplets, saliva, fomites.one-third of children affected with mumps are asymptomatic but contagious.[1]

The clinical profile is characterized by fever with malaise and typical parotid gland swelling. Sometimes other organs may be affected. Orchitis, encephalitis, meningitis, myocarditis, pancreatitis,

nephritis may occur. long term complications like seizures, deafness, cranial nerve palsies may occur.2
Mumps is very contagious. occuring mostly in kindergartens and schools, and crowded families. Risk factors like age, compromised immunity, vaccination status, etc. Males mostly presents with complications.[2]
Mumps manifests as painful inflammatory symptoms such as parotitis, orchitis, oophoritis, aseptic meningitis, encephalitis and pancreatitis. Most common complication is Orchitis leading to male infertility.[3]
Mumps Orchitis presents as painful testicular swelling usually occurring one week after infection. Approximately 30% of mumps orchitis will suffer from infertility or subfertility. Atrophy of germinal epithelium with arrest of spermatogenesis.[3]
Usually the mumps begins with fever, malaise, and painful jaw movements. There may be hyper-pyrexia temperatures reaching 104f. Children may present with delirium or convulsions due to the high temperature or CNS involvement. After 24 hours typical parotid gland enlargement may occur on one side of face causing trismus, painful chewing movements.[4]
If genuine painful parotid gland enlargement is there, history of contact with mumps case should be sought. Management with bed rest and analgesics. If orchitis is there give 4-5 days of prednisolone along with analgesics. Maintain hydration.[4]

MATERIALS AND METHODS

This was a descriptive, observational, record-based study. Hospital records of all children with suspected MUMPS in Out-patient department of Government General Hospital, Mahabubnagar from March 2024 to May 2024 is reviewed.

Inclusion Criteria

All Children presenting with fever, malaise, pain and swelling of parotid and sub maxillary salivary glands are included in our study.

Exclusion Criteria

- Infants.
- Children with submandibular lymphadenopathy.

The study was conducted over 03 months involving 150 children who were presented to Out-patient department with suspected MUMPS.
As MUMPS is diagnosed with proper history and clinical examination, these cases were explained regarding possible complications and were managed as per institutional protocol.
Data Analysis: Data is compiled and tabulated by using standard appropriate statistical technique, which includes numbers and percentages.

RESULTS

Table 1: Vaccination status and sex distribution of MUMPS Cases

Vaccination status	Male	Female	Total
Vaccinated	88(92.6%)	47(85.5%)	135(90.0%)
Non-vaccinated	7(7.4%)	8(14.5%)	15(10%)
Total	95(100%)	55(100%)	150

Table 2: Clinical profile of Out-Patient Clinical profile of MUMPS Cases

Clinical Features	Number of patients
Fever with Malaise	130
Unilateral Parotid enlargement	12
Bilateral Parotid enlargement	0
Unilateral sub maxillary swelling	114
Bilateral sub maxillary swelling	10

Among the 150 cases studied 136 children managed in out-patient department. Among them fever with malaise (86.6%) is most common presentation, followed by sub maxillary salivary glands enlargement (82.6%). Bilateral parotid glands enlargement is rare.
Unilateral parotid enlargement presented in 12 cases (1%).unilateral sub maxillary salivary gland involvement presented in maximum cases 114(76.0%). Bilateral sub maxillary salivary gland involvement is there in 10 cases (6.6%).

Table 3: In-Patient clinical Profile of MUMPS Cases

Clinical Profile of In-Patient MUMPS	No of patients
Hyper pyrexia	10
Febrile seizures	3
Orchitis	1

In our study, 14 cases of mumps required admission among 150 cases. Hyper pyrexia in 10 cases.3 children presented with simple febrile seizures. 01 case presented with Orchitis.

Table 4: Outcomes among the study population

Cured or Relieved of symptoms	150
Deaths (due to Aseptic Meningitis, sepsis)	0
Average duration of stay	03 to 05 days

Among the 150 cases studied 100% cases managed and discharged. Average duration of stay is around 03 to 05 days. 0%mortality noted (with other comorbidities such as Sepsis and aseptic meningitis, encephalitis).

DISCUSSIONS

MUMPS is very contagious viral infection. Occurring mostly in school going and compromised immunity children. Most out breaks occur in kindergartens and schools and crowded families. Vaccination has reduced the epidemics and severity of the disease.

Mumps spreads by droplet infection, through saliva and fomites. Sometimes use of common swimming pools another source of transmission. The infection is more 3 days prior and 5 days after parotid enlargement. Strict isolation is advised in that time period.

Main treatment is bed rest and anti-pyretics. Hydration maintained through oral or Intra venous routes. Complications are rare, occurring mostly in male children. Prevented mainly by full vaccination, isolation of cases and good hand hygiene techniques.

In our study 150 cases have been evaluated. Among them 90% are vaccinated. Males are more affected (63.3%)compare to females. Similar results were found in a study by Erlend T Aasheim et al 84% vaccination coverage is there; and 67.9% are male.[5]

In the present study 136 mumps cases managed on out-patient based management. 14 cases required in patient admission.

OP based MUMPS cases presented mainly with fever with malaise, and unilateral sub maxillary enlargement with painful chewing movements. Only 12 cases presented with unilateral parotid enlargement and none of them presented with bilateral parotid enlargement.

Among 150 mumps cases studied, 14 required admission. Hyper pyrexia most common reason for admission followed by simple febrile seizures.

Complication encountered in one patient with orchitis.

Among the 150 cases studied 100% cases managed and discharged. Average duration of hospital stay is around 03 to 05 days.

CONCLUSION

AS MUMPS is very contagious viral infection, main motive should be on prevention by two doses of MR vaccine. Vaccine awareness should be created among communities and 100% immunisation should be achieved.

AS the Mumps is most common in school age children, identification of cases by medical officers should be done and strict isolation should be advised to prevent epidemic outbreaks.

Good hygiene measures and full immunisation can prevent these recurring outbreaks.

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