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ROLE OF PAP SMEAR AS A SCREENING TOOL FOR CERVICAL CANCER: AMONG HEALTHCARE WORKERS

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Abstract

Introduction: Cervical cancer is one of the leading causes of cancer death among females worldwide and its behaviour epidemiologically likes a venereal disease of low infectiousness caused by HPV. Early age at first intercourse and multiple sexual partners have been shown to exert strong effects on risk.

Aim & Objective: To study the role of pap smear as a screening tool for cervical cancer among healthcare workers.

Materials and Methods: A Prospective Study conducted on sexually active women. Data collected regarding history,complaints and pap smear reports.

Results: In our present study 46.2%women screened for cervical cancer belong to 31-40 age group and 37% women belong to 41-50 age group and remaining age group constitute less. Cytology report 55.5% Negative for Inflammatory smear and 20% had inflammatory smear with reactive atypia. Among cytology reports LSIL constituted 5.5% of which belong to age group 41 and above and 1.8% HSIL belong to age group 31-40. In our study second parity constituted 52.3% followed by first parity 13.2%.Majority were asymptomatic 46.2% and symptoms like irregular menstrual cycles constituting 18.5% and white discharge and amenorrhea constituting 9.25% in our study group.

Conclusion: Pap smear testing is an effective, simple, affordable, and safe method for detecting precancerous lesions of cervix. It is available at free of cost in government hospitals. It should be implemented as a routine screening procedure to lessen the burden of treatment, as well as reduce morbidity and mortality related to cervical cancer.

Keywords: Pap smear, Cervical cancer, Screening tool

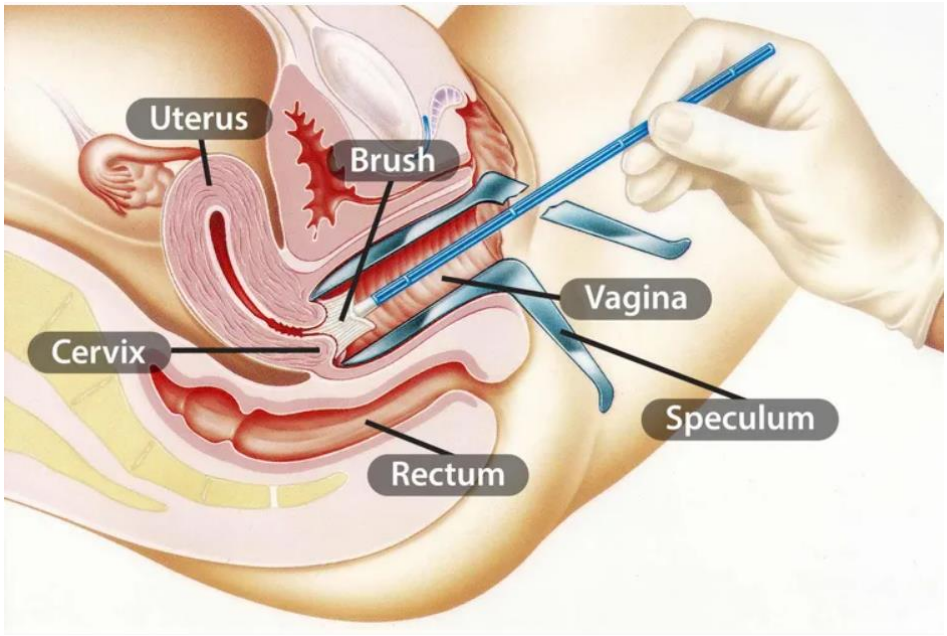
Introduction

Cervical cancer is a preventable disease due to the long pre invasive stage. Early detection and appropriate treatment are possible if robust screening is implemented[1]. Early cervical epithelial changes can be identified by a Pap smear test, which is the primary screening test for detection of precancerous cervical intraepithelial neoplasia and the early stage of invasive cervical cancer.

There is a need to spread cervical cancer screening awareness programs, educate women regarding the symptoms of cancer, and motivate them to visit the hospital for a cancer screening. Women and all family members should be counselled about the need for cancer screening. Women with Pap smear showing pre malignant changes in cervix need adequate treatment and regular follow-up. Thus, we have to strengthen our health services and health-care system to include screening at primary health centers.

Cervical cancer is fourth leading cause of cancer among women and one of the leading cause of death among females world wide. It is epidemiologically like a veneral diseases of low infectiousness caused by Human Papilloma virus with maximum cases reported in the Asia. In the recent times there is increasing trend due to change in sexual behaviour and risk factor include poor genital hygiene, early age of marriage, multiple sexual partners, repeated pregnancies, long-term contraceptive use, smoking, Low age at marriage, early age at first intercourse, higher parity raises the risk of HPV acquisition among Indian women. As the cases are increases there is a need for screening at early stages.

The “Pap test saves lives.” In 1940’s, Dr. G. N. Papanicolaou first developed the technique of collecting, fixation, and staining of cervical cells (Pap smear). A Pap smear, also called a Pap test, is done to see premalignant changes in cervical epithelial cells [2].



Prerequisites for pap smear

- Don’t have sex or use lubricants.
- Don’t use sprays or powders near your vagina.
- Don’t insert anything into your vagina, including tampons, medications, creams, and suppositories.
- Don’t rinse your vagina with water, vinegar, or other fluid (such as a douche).

Technique of collecting pap smear

1. Explain the procedure to the patient and take a verbal or informed consent
2. The patient should be in a lithotomy position – ideally on a PV table
3. A Sim’s speculum or a bivalve Cusco’s speculum is inserted in the vagina and the cervix is exposed .
4. Sqamocolumnar junction is scraped with Ayre’s spatula by rotating the spatula all around or the tip of the brush is put in the endocervical canal and fixed gently but firmly and then rotated clockwise through

360° 2–3 times then only slide is considered as satisfactory[3]. With the cytobrush–reverse rotation during the procedure is strictly prohibited as it may leave behind those cells that are collected in the previous rotations**.**

5. The material is spread in a circular or linear fashion in the central 2/3rd area of the glass slide leaving the edges of the glass slide free of material.
6. The conventional smear is immediately fixed in95% absolute alcohol. Delay in fixation causes air drying artifacts and there is clouding of morphological details
7. However, if there is shortage of alcohol or constant failure to provide "good quality wet fixed smears," then the smear may be totally air dried. The air dried smears are rehydrated in the laboratory
8. For spray fixing of the slide, spray should be kept at an angle of 45° and at a distance of 6 inches from the slide.

Methods

This prospective study was carried out over 1 day at the Department of Obstetrics and Gynaecology in the INNER WHEEL CLUB,Anantapur India. We screened 65 health care workers who were sexually active women. Women with different complaints, including vaginal discharge, blood-mixed discharge, foul-smelling discharge, postcoital bleeding, intermenstrual bleeding, postmenopausal bleeding, abdominal pain, infertility, and secondary amenorrhea, were included in this study. Those not willing to participate in the study had a frank growth, had been treated for cervical cancer, or were pregnant were excluded from the study. A detailed history was taken using a predetermined pro forma that included the chief complaint and the findings of per speculum and vaginal examinations.

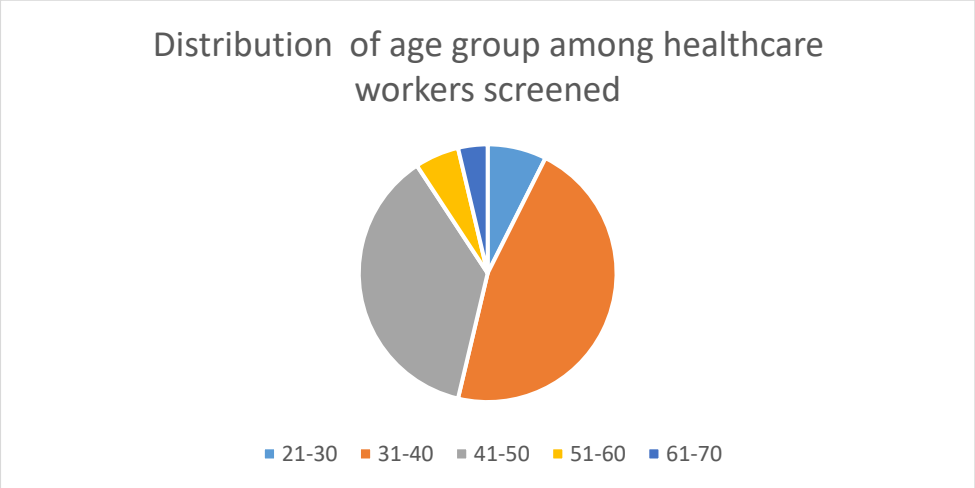
Written informed consent was obtained from all women. Patients were placed in the lithotomy position, and a sterile bivalve speculum was inserted into the vagina. The posterior vaginal wall was retracted

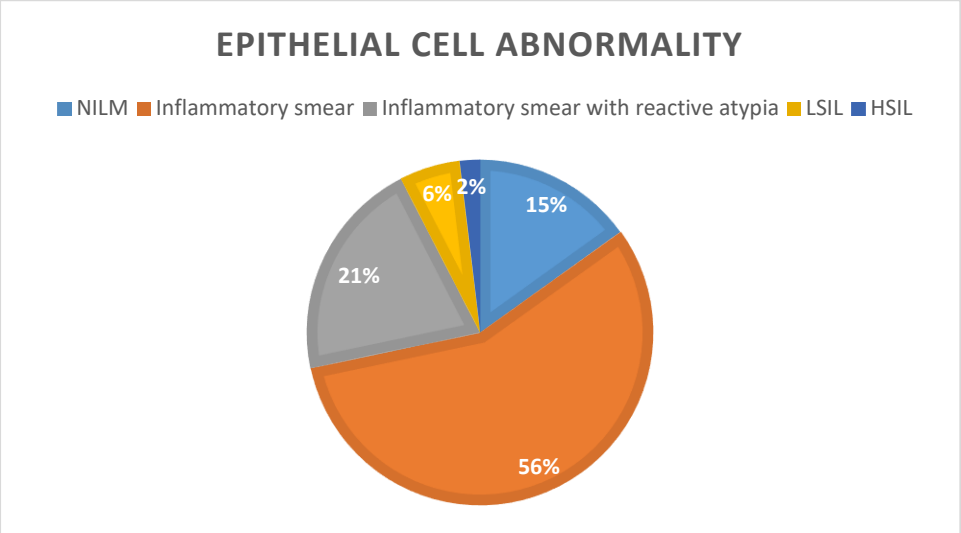
posteriorly and the anterior vaginal wall anteriorly to allow proper visualization of the cervix and vaginal wall.

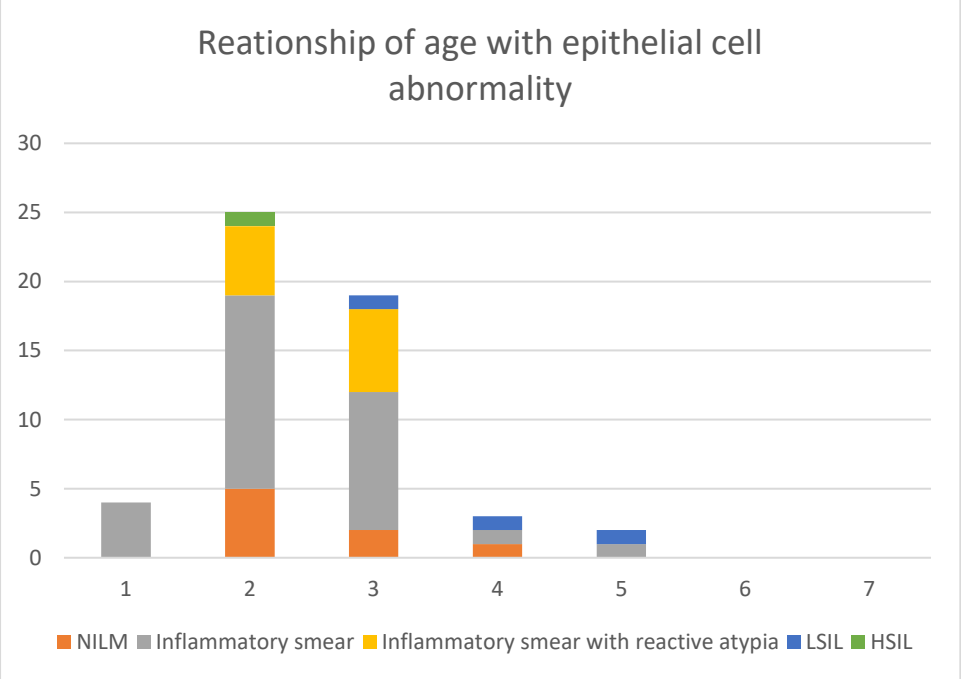
A sample was taken from the ectocervix by rotating a wooden Ayre spatula 360°. The sample was quickly smeared onto a labeled glass slide and fixed with 95% ethyl alcohol in a jar. The glass slides were sent to the Department of Pathology for cytopathological examination. Laboratory results were reported according to the new Bethesda System for Reporting Cervical Cytology 2014. The system broadly divides lesions into those negative for intraepithelial neoplasia and epithelial cell abnormalities (ECA) that include squamous and glandular cells.

Women who had abnormal Pap test results, including atypical squamous cells of undetermined significance (ASCUS), low-grade squamous intraepithelial lesion (LSIL), and HSIL were sent for a colposcopic examination. Women who had an abnormal colposcopic finding, i.e., a Reid score 6 or above, underwent a colposcopy-guided biopsy. Treatment was provided according to the stage of the disease.

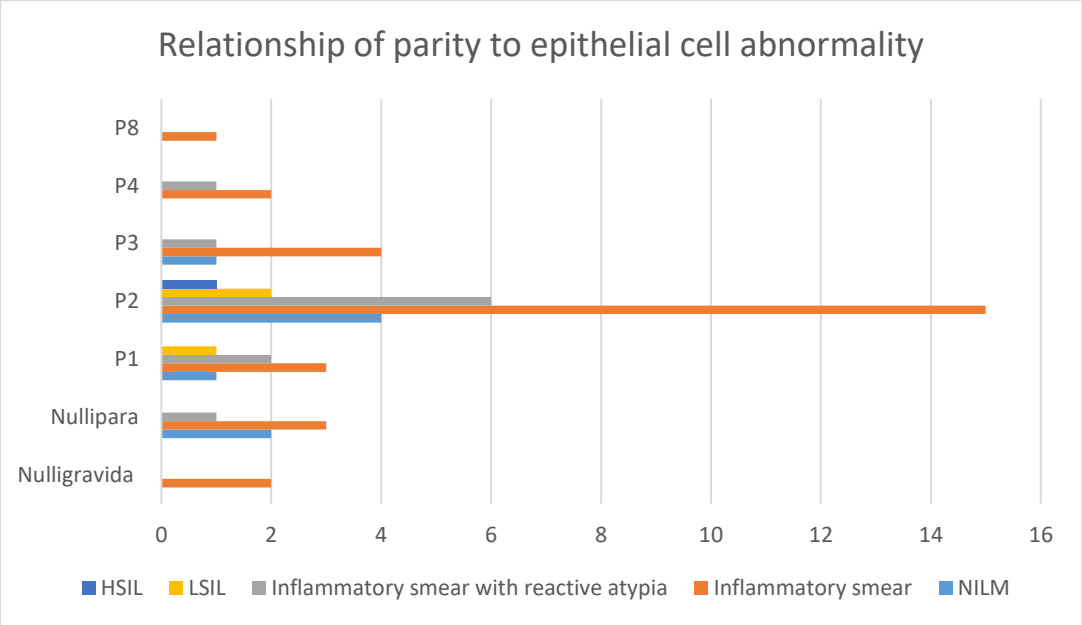
Results

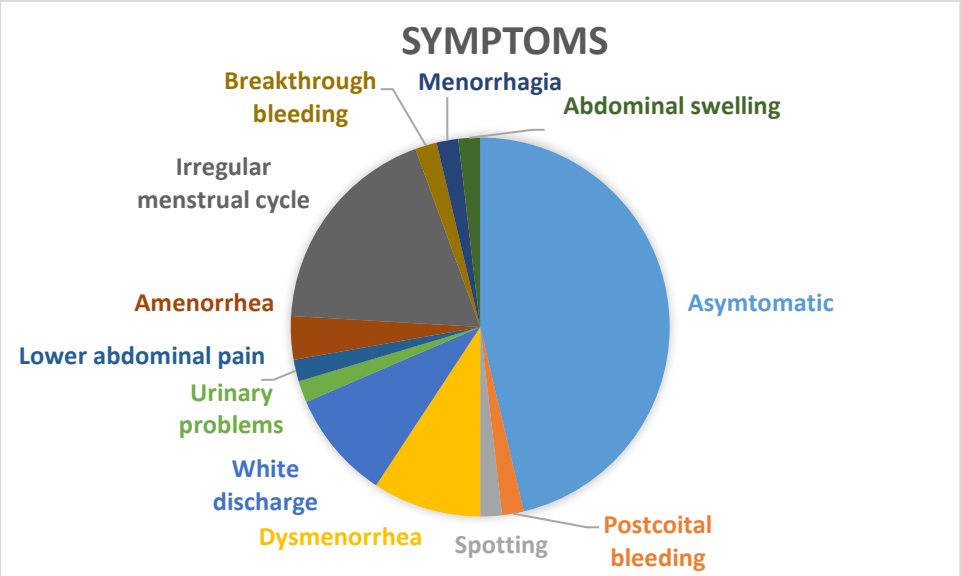


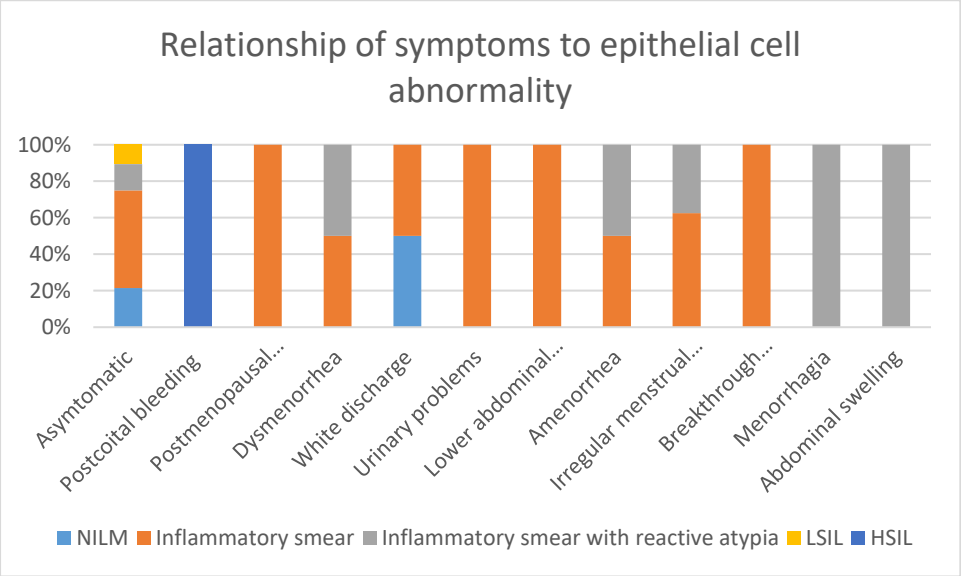


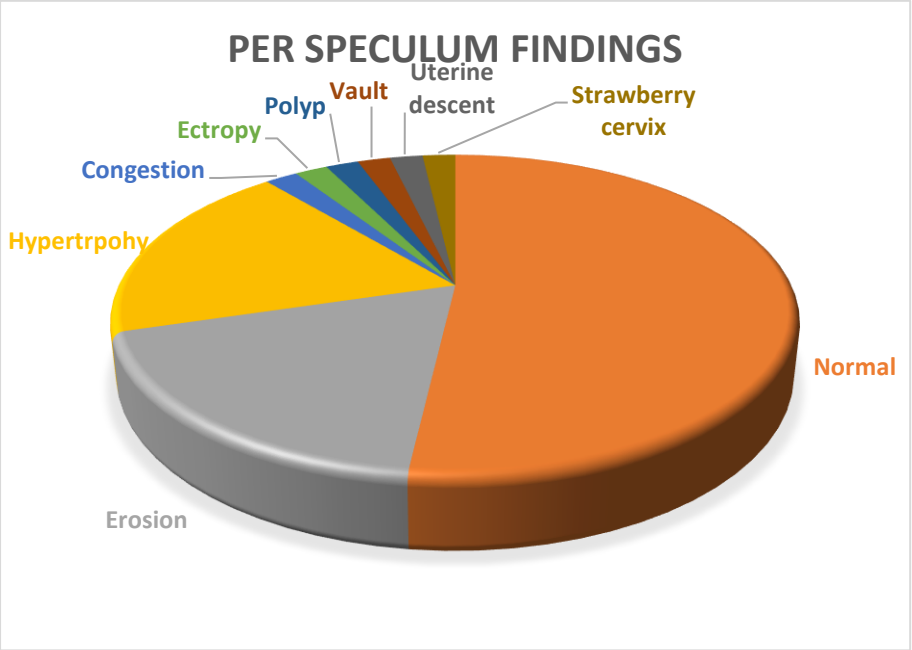


1. 21-30 2. 31-40 3. 41-50 4. 51-60 5. 61-70


Relationship of parity to epithelial cell abnormality
P8
P4
P3
P2
P1
Nullipara
Nulligravida
0
2
4
6
8
10
12
14
16
HSIL
LSIL
Inflammatory smear with reactive atypia
Inflammatory smear
NILM


SYMPTOMS
Breakthrough bleeding
Menorrhagia
Abdominal swelling
Irregular menstrual cycle
Amenorrhea
Asymtomatic
Lower abdominal pain
Urinary problems
White discharge
Dysmenorrhea
Spotting
Postcoital bleeding





Discussion

Cervical cancer rates remain notably high due to inadequate or poorly executed prevention programs. The Pap smear test, an effective screening tool for early detection of cervical cancer, could significantly reduce these rates, but community awareness about its importance is very limited.

WHO recommends screening with papsmear from 21-65yrs of age.

The American Cancer Society (2012) recommends that women undergo a Pap smear every three years, with the addition of an HPV DNA test every five years for enhanced screening.

In our present study 46.2%women screened for cervical cancer belong to 31-40 age group and 37% women belong to 41-50 age group and remaining age group constitute less [4]. In a study conducted by Herbert and Smith (1999), cervical premalignant lesions peak in the late 20s.

Majority had cytology report 55.5% Negative for Inflammatory smear and 20% had inflammatory smear with reactive atypia. The ECA ASCUS was found in 2.9% of screened women, LSIL in 5.09%, and HSIL in 0.48%, results comparable to those in a study done by Verma *et al*.,

Among cytology reports LSIL constituted 5.5% of which belong to age group 41 and above and 1.8% HSIL belong to age group 31-40. LSIL and HSIL were found in 5.09% and 0.48% of the women in this age group, respectively. Gupta *et al*.

In our study second parity constituted 52.3% followed by first parity 13.2%. Inflammatory smear constituted more in second parity also and included HSIL as a epithelial call abnormality. In Mitra *et al* study mostly in parous women more than 5, 35.71% have cervical epithelial cell abnormality.

Majority were asymptomatic 46.2% and symptoms like irregular menstrual cycles constituting 18.5% and white discharge and amenorrhea constituting 9.25% in our study group. In Sachan *et al* study White vaginal discharge was the most common symptom found in 36.96%, abdominal pain in 25.63%, an irregular menstrual cycle in 12.78%, postcoital bleeding in 3.09%, and postmenopausal bleeding in 1.45% of the women.

In 40 to 50year age group individuals, with premalignant lesions often takes 5 to 10 years to turn into malignancy. As a result, it is advised that women undergo at least one Pap smear test before reaching the age of 45.

Conclusion

Pap smear testing is an effective, simple, affordable, and safe method for detecting precancerous lesions of cervix. It is available at free of cost in government hospitals. It should be implemented as a routine screening procedure to lessen the burden of treatment, as well as reduce morbidity and mortality related to cervical cancer. All women over the age of 21yrs should undergo regular cervical cancer screening, continuing even into the postmenopausal years. The Pap test is considered the gold standard in cervical screening programs, and when combined with an HPV DNA test, its sensitivity in detecting cervical abnormalities is enhanced [2]. It is crucial to educate the community about the Pap smear test, including its purpose and recommended frequency, through widespread educational and media campaigns and certain NGO conducting campaigns for educating and enlightening the importance of screening for cervical cancer as a pap smear. Many women visiting outpatient clinics are unaware of cervical cancer screening, highlighting the need for expanded cancer screening programs to help prevent the morbidity and mortality associated with cervical cancer.

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