Nature & Science

International Scientific Journal

THE REPUBLIC OF AZERBAIJAN

Nature & Science

International Scientific Journal

Volume: 7   Issue: 1

Baku - 2025

International Indices

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Preference of Delivery Type of Pregnant Women

Abstract

Birth is a process that can expose women to many risks. One of the important issues to be decided is the type of delivery. Many factors influence women, but what is important is that they are adequately directed to the appropriate mode of delivery, and that labor results of a healthy mother and baby. To investigate the view of pregnant women delivery preference and to contribute to the development of new health strategies in order to prevent the increase of cesarean rates. Methods: The pregnant between 6 and 40 weeks of gestation were included in the questionnaire. Pregnant women in labor were not included in the questionnaire. The answers were evaluated and the reasons underlying the attitudes of the pregnant women about the mode of birth were tried to be revealed. Results: 71.6 % of individuals over 30 years of age preferred cesarean delivery. No statistically significant relationship between gestational age and type of delivery. Postpartum complication subscale scores and total delivery information scores of the healthcare personnel were higher than the other occupational groups. 75.1 % of vaginal births stated the reasons they preferred choice for mother-child health, first births of 37.8 % of those preferring caesarean delivery stated that they preferred to cesarean section. Health personnel and family physicians play an important role in determining the best mode of delivery in favor of the mother and the baby, and reducing unnecessary cesarean procedures.

Keywords: *inflammatory, birth, vaginal delivery, cesarean section, complication*

Introduction

Pregnancy and birth, which are normal stages of life, are normal physiological events for the female body, but they also carry some risks (dystocia, toxemia, bleeding, infection, anemia, etc.) (Günalp & Tuncer, 2004). Identifying these risks at the earliest and taking appropriate steps to ensure that this process ends healthily for the mother and the baby are important goals of health policy. One of the important issues that needs to be decided in order to achieve this is the method of birth. The method of birth should be decided by closely evaluating the mother and the baby during pregnancy.

Research

Women of childbearing age experience fear and anxiety about how the birth will be during pregnancy. While the expectant mother awaits the moment when the unknown birth event will occur with fear and excitement, she also experiences maternal instincts and the pride of giving birth to a living being. Especially in her first pregnancy, a woman experiences many new feelings that she cannot define and does not know what to expect during birth. Vaginal birth is a birth method that people have used for millions of years. The physiological structure of the female body is generally suitable for vaginal birth. With sufficient support and appropriate intervention, birth can be successful. However, in cases such as cephalopelvic disproportion, postural disorders of the baby, fetal distress, dystocia, large baby, previous cesarean section, vaginal birth cannot occur or the vaginal birth process may be risky for the mother or baby. In this case, the baby must be delivered by cesarean section (Park, Yeoum, & Choi, 2005).

The rate of birth by cesarean section increases with the level of education and wealth. It has been determined that the cesarean section rate, which is 60 percent or more in the highest level of education and wealth, is more than three times higher than the cesarean section births in the lowest level of education and wealth. At the beginning of this century, cesarean section was an operation performed to save the life of the woman, in the middle of the century it began to be considered as a low-risk operation that would save the life of the fetus, and by the end of the century it had become a procedure that would make life easier for both the mother, the baby and the doctor (Hacettepe. Sağlık Bakanlığı Ana Çocuk Sağlığı 2009; Flamm, Thomas, & Fallon, 2002). Birth is a process that can expose women to many risks during pregnancy, birth and the postpartum period. One of the important issues to be decided in this process is the woman's method of birth. Women may be affected by many factors when deciding on the method of birth, but what is important is that they are guided to the appropriate method of birth by the right sources, with sufficient information, and that the birth results in a healthy mother and baby. With the results of this study, we aimed to examine the views of pregnant women on cesarean section and normal vaginal birth and to contribute to the development of new health strategies in order to prevent the increase in cesarean section rates.

Material and Methods

A pre-prepared questionnaire consisting of 23 open-ended and multiple-choice questions was given to pregnant women who came for a check-up at the maternity clinic and they were asked to fill out the form themselves. Participation in the survey was voluntary. Survey participation consent forms were obtained from the participants. The answers given by the survey participants (pregnant women) according to their demographic characteristics were evaluated and the reasons underlying the attitudes of the pregnant women about the delivery method were tried to be revealed. At the end of the survey study, 419 pregnant women participated in the survey. Pregnant women between 6 and 40 weeks of gestation were included in the survey. The obstetric ultrasonography value performed at the clinic was taken as the basis for the gestational week. Pregnant women who applied to the clinic due to pain (in labor) were not included in the survey. The study is prospective in terms of time. Statistical Analyses: The conformity of the variables of age, gestational week and age at first birth included in the study to normal distribution was evaluated graphically and with the Shapiro-Wilks test and it was seen that all of them did not conform to normal distribution. Median was used to display descriptive statistics for variables obtained through measurements within the scope of the study. The median of gestational week for 418 individuals who responded to the question on gestational week was 28.0 weeks, and the median of first birth age for 218 individuals who reported their first birth age was 22.0 years. Of the 223 pregnant women who had more than one birth, 215 reported their previous birth type. Of the 215 pregnant women who reported their previous birth type, 136 (63.3 %) reported vaginal birth, 63 (29.3 %) reported cesarean section, and 16 (7.4 %) reported both birth types.

As age increases, the tendency to have a cesarean section increases. It was observed that the tendency to have a cesarean section was OR=7.05 times (95 % CI: 4.397; 11.318) higher in those over 30 years of age compared to those under 30 years of age. While 268 (73.6 %) of the 364

individuals who reported their income level had an income level of 1500 TL and below, 96 (26.4 %) had an income level of 1501 TL and above. Only one of the mothers who participated in the survey did not state their literacy status. Of the 409 literate individuals, 157 (37.7 %) were high school graduates and 98 (23.5 %) were university graduates. When the relationship between the mothers' occupation and the preferred delivery method was examined, a statistically borderline significant relationship was found (2=3.624; p=0.057). While 9 (45.0 %) of the health personnel preferred vaginal birth, 55 (67.9 %) of the mothers in other occupational groups stated that they preferred vaginal birth. No statistically significant difference was found between occupational groups in terms of mother-baby risk subfactor score and postpartum recovery/ability to return to normal life subfactor score (Z=0.882; p=0.378 and Z=0.596; p=0.551, respectively). A statistically significant difference was obtained in terms of total knowledge score of birth type according to the occupational groups of the individuals (Z=2.232; p=0.026). When the mother-baby risk subfactor score was investigated according to the income levels of the individuals, no statistically significant difference was found; however, it was determined that the postpartum recovery/ability to return to normal life subfactor score showed a statistically significant difference according to the income level.

Conclusion

The preferences and reasons for the preferences of 79 individuals whose previous birth was cesarean were evaluated. Of the mothers who had a cesarean section, 67.2 % of those who chose cesarean as their next birth were due to their first birth, while 14.1 % were due to medical indications and 4.7 % were due to fear of pain. Of those who preferred vaginal birth as their next birth, 80.0 % stated that they preferred this birth type for the sake of mother-baby health, while 10.0 % stated that they preferred this birth type to avoid surgery or interventional procedures and/or complications. When the literature on this subject is reviewed, the cesarean birth preference rate is reported to be between 3-48 % on average (Yumru et al., 2000; Şahin, 2009; Bettes, Zinberg, & Spong, 2007). When studies conducted in different parts of the world are evaluated one by one, significant regional differences in birth type preferences are observed. In a survey conducted with 314 pregnant women in Azerbaijan (Yaşar, Coşar, & Köken, 2007), 22.6 % of pregnant women preferred cesarean birth. In England and Northern Ireland, the cesarean request rate was reported as 7 % (Chong & Mongelli, 2003; Belizán & José, 2011).

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Study of the Distribution Zones of Regional Apple Varieties Cultivated in the Conditions of the Nakhchivan Autonomous Republic and the Diseases Observed in Them

Abstract

The article studies the high-yielding, frost-resistant, disease- and pest-resistant, stone fruit varieties cultivated in the Ordubad and Sharur regions. Phenological observations were conducted on the discovered varieties, and promising varieties were selected and increased. It was observed that apple, pear, and quince varieties cultivated in those zones were resistant to frost, disease, and pests. For this reason, it is appropriate to widely increase apple plants in the villages located in the mountain and foothill zones of the Nakhchivan Autonomous Republic.

Keywords: productivity, phenological observation, selection, plant hybridization, seedling, confectionery

Introduction

The maximum satisfaction of the population's daily demand for various fruit products has always been in the focus of the state. Therefore, the further expansion of orchards, the selection and placement of productive and promising varieties and their increase are considered one of the requirements of today. Unlike other regions of the Republic of Azerbaijan, the territory of the Nakhchivan Autonomous Republic is very favorable for the cultivation of fruit plants and the production of high-quality and abundant crops. Among the fruit plants cultivated in the territory of the Autonomous Republic, apple is also planted and cultivated in large areas, and apple ranks first among stone fruits and constitutes the majority among existing stone fruits.

The history of fruit growing in Nakhchivan suggests that the fruit varieties currently cultivated in gardens are the product of centuries-old folk selection on wild fruit plants in the area. The cherry forms of the apple are widespread in the Bichenak and Nasirvaz forests. Of the most cultivated forms of the apple, the summer and autumn-winter varieties are also cultivated more in the foothill zone. The summer variety of the apple is cultivated more, and the winter variety is cultivated less (Talybov & Bayramov, 2013, pp. 20-21).

Research

The State Program "On the Development of Fruit and Vegetable Growing in the Nakhchivan Autonomous Republic in 2021-2025" has been adopted. In order to successfully fulfill the tasks set in this area, it is first of all necessary to select high-yielding varieties that are suitable for the natural and economic conditions of each region engaged in fruit growing, as well as various zones of our autonomous republic, and to widely apply them in production. It is from this perspective that the discovery and propagation of valuable apple and pear varieties that have been cultivated in the autonomous republic since ancient times, but are still rarely found, as well as the cultivation and transfer of more productive varieties to farms, are of great practical importance for the successful implementation of the food program that is now being implemented with great effort in our republic. The main goal of growing fruit and berry crops is to obtain fruit and berry products that contain very valuable and necessary substances for human nutrition, normal growth and development of the body. In addition to using fruits and berries fresh during the fruit season, fruit jams, jams, povidlo, juice, etc. products made from them are used throughout the year. One kg of

skim milk contains 580-640 calories. One kilogram of apples produces 440-556 calories, which is 4/3 of the calories in milk (Hasanov, 2010, p. 6).

The hormones and essential oils contained in the fruit and cherry also stimulate appetite, prevent weight gain, and slow down aging. They strengthen the functional activity of organs, prevent possible diseases, and increase the body's resistance to external influences (Bayramov, 2019, p. 5).

Purpose of the study Nakhchivan Autonomous Republic has been famous for its high-quality and numerous fruit varieties since ancient times. Many varieties of pitted, seeded, berry-bearing and other fruit varieties have been grown here through folk selection, which not only do not lag behind, but even surpass the varieties common in other regions in terms of their taste, aroma and other characteristics (Nasir, 1995, pp. 140-141).

The purpose of studying varieties is to identify ancient, highly productive, frost-resistant, disease- and pest-resistant varieties of pitted fruit, to study their biological and economic characteristics and recommend the best ones for production (Hasanov, 2000, p. 93).

Material and Research Methods

The main material of the study is the native apple and pear varieties and forms cultivated in the territory of the Nakhchivan Autonomous Republic. In carrying out the research work, the methodology programs and methods of the I. V. Michurin State Research Institute of Fruit Growing adopted in fruit growing were used. Developing the agrarian economy of the republic, as well as improving the food supply of the population and establishing intensive orchards are important state issues and require the creation of quality fruit varieties and increasing productivity in agriculture. High-yielding, frost-resistant, disease- and pest-resistant, stone-bearing fruit varieties cultivated in the territories of Ordubad and Sharur districts were studied. Ordubad district has been famous for its high-quality and numerous fruit breeds and varieties since ancient times. Hundreds of very rare stone-bearing, stone-bearing, and stone-bearing fruit varieties have been grown here through folk selection. Many of them have gained great fame worldwide even today (Talibov & Bayramov, 2013, p. 36).

A.Kh. Rollov (1896) stated that people in the Nakhchivan region have been engaged in fruit growing since ancient times and noted the spread of valuable fruit varieties in this area in connection with this. He showed the variety diversity of the main fruit plants cultivated in the Nakhchivan region, of which the largest number falls on the share of apples (Talybov & Bayramov, 2013, p. 12).

In the Nakhchivan Autonomous Republic, the most productive, frost-resistant, disease- and pest-resistant, stone-fruit varieties are distributed in the Ordubad region. Among these varieties, the following can be mentioned: Yaz Melasi, Yay Melasi, Rajabi, Kırmızı alcha, Tabarza, Goyja, Gilas, Novras, Gilanar, Genza, Dırnys, Kulus, Misri apple, Gızıl apple, Abrash apple, Dağ pear, Cıl-chil pear, Kırmızı yanaq pear, and the quince varieties Sari heyva, Melayi heyva, Vezri heyva, Novras heyva and others (Bayramov, 2019, pp. 22-23).

In the Nakhchivan Autonomous Republic, apples account for only 50% of the orchards. The main reason for this is that the apple fruit is of high quality, ripens at different times and lasts a long time. Apple varieties that survive the winter are more valuable.

Despite the low prevalence of autumn and winter apple varieties, there is a high demand for these varieties to provide the population with apple fruit. Apple plants are mainly cultivated in foothills and mountainous areas. It has been observed that apple varieties cultivated in these zones are resistant to frost and diseases and pests. It is convenient to cultivate quality apple varieties that survive the winter in mountainous regions. The fruits of apple varieties cultivated in the mountainous zone can be stored for a long time and are of high quality. For this, it is advisable to widely increase apple plants in the villages located in the mountain and foothill zones of the Nakhchivan Autonomous Republic. Fruit plants included in this group belong to the Rosaceae family, the Maloideae subfamily and separate genera (Hasanov, 2010, p. 217).

Stone fruit plants are widely cultivated in our republic and have large areas. From this group, those considered promising for our republic are apple, pear, quince and partly hawthorn.

Apples are divided into three groups according to their ripening time. 1. Summer varieties. Such varieties ripen in the summer in July-August in our republic. These varieties include White apple, Borovinka, Red musk, Ordubad beauty, Rashad apple, Summer apple and others. 2. Autumn varieties. They ripen in September-October. Unlike summer varieties, they can be stored for 1-1.5 months. These include Girde red apple, Heiwa apple, Ordubadi, Mazra, Stekan apple, Shakh apple, Sour apple, Zolagli apple and others. 3. Winter varieties. These are varieties that are resistant to long-term storage and transportation. These varieties include Dash apple, Daragi, Akbari, Gelin apple, Haji Huseyn, Khumar apple, Kalamfur, Gizil Ahmadi, Logazbeyi, Sari sour, Seyid Shukur, Sultani, Tabag apple, Top red apple, Vahab apple and others. 4. There are 60 known species of the pear (Pyrus L.) genus. It is a tree up to 20-25m tall. Its flowers are large, with white petals. Depending on the variety, its fruits are of different shapes and quality. The root system is compact and deep-rooted. Pear is propagated by cuttings (Talybov & Bayramov, 2013, p. 65).

Pear has been cultivated by humans since ancient times. Although pears do not last as long as apples, they are a very widespread and important fruit. In Azerbaijani horticulture, they rank second after apples in terms of yield among stone fruits. The main reason for this is that pear fruits are of high quality, ripen at different times, and remain in season until March-April. In the foothill zone, winter pear varieties are suitable for cultivation. Pear plants are mainly cultivated in the foothills and lowlands. Pear varieties cultivated in those zones have been observed to be resistant to frost and diseases and pests (Bayramov, 2017, pp. 25-27).

For this reason, it is appropriate to increase the best varieties of local pear plants in the villages in the lowland and foothill zones of the Nakhchivan Autonomous Republic. Regarding the technological characteristics of local apple and pear varieties, it has been found that the acidity within apple varieties decreases when ripe, and the apples are sour-sweet, intoxicating and sweet in taste depending on the percentage of sugar and acidity. Candies made from apple sugar are a medicine for coughs. Apple fruit is beneficial, has a pleasant taste, cools the heart, and helps with digestion (Bayramov, 2019, pp. 24-25).

Apples are consumed a lot in dried form. On average, 12.5 kg of dried apples and 4 kg of jeja are obtained from 100 kg of apples. Jeja is used to make jam. The fruit of pear varieties is often used fresh. Pears are juicy, tasty, and fragrant, so they are often used. They contain vitamins C and B. Pears are digested faster than apples. Pear fruits are also used dried. The best pear jam is obtained from the varieties of Hasta pear, Safi pear, etc. Dried pear jam contains up to 29-30 % sugar. (Bayramov & Guliyev, 2017, pp. 25-27).

Delicious candies, pastries and confectionery, vodka and wine are made from pear fruit. Only crushed, damaged, overripe and other rotten fruits are used to prepare these final products. In addition, almanac is prepared from Mehdi pear, Dırnısı, Khoy pear varieties. The wood of the pear tree is very valuable, hard and valuable wooden items are made. The fruits of local apple and pear varieties were given to the laboratory and the following were determined by conducting technological analysis.

Autumn varieties of local apples produced for jam: Sultanı, Mazra apple, Gami apple, Ganza red apple varieties are suitable. The jam is tasty and high-quality. Local apples suitable for juice production: Müşgü apple, Gülaman apple, Nabat apple varieties are high-quality and fragrant. According to their sugar content: Top red apple, Mikhey apple are suitable for the production of chem. The fruits of local pear varieties that are late ripening and produced for jam: Kashta pear, Fakhri pear varieties are juicy and juicy, so they are suitable for jam and of good quality. Medium-ripening local pear varieties that are sweet and produced for jam: Safi pear, Khoy pear. Varieties of local pears produced for pavidlo are early ripening varieties. Agrotechnical measures applied in the study of local apple and pear varieties should be carried out in a timely manner − irrigation should be carried out 8-12 times during the vegetation period. Depending on whether the year is dry or rainy, irrigation begins at the end of March, early April and continues until October-November. In addition, the provision of organic fertilizers to apple and pear orchards is very important. To meet the growing demand of the population for fruit and berry products, it is necessary to expand intensive garden areas. The most common diseases in fruit trees are spotting, black cancer, fruit rot,

powdery mildew on apples, spotting on pears, stisporos, bacterial and viral diseases (Rahimov, 1988, p. 118).

Spotting is the most common disease on fruit plants and causes the most crop loss. Small (1-2 mm), gradually expanding (10-15 mm) circular gray velvety spots are formed on infected flowers, leaves and fruits. For chemical control, spraying with 1 % Bordeaux mixture should be carried out. Treatment should be carried out 3-4 times during the vegetation period. Although spotting does not cause rot in the fruit, it creates conditions for this. Powdery mildew infects buds, shoots, leaves and trunks. A dirty white coating first forms on them, and this coating gradually turns brown. Black dots may also form on the spots. Infected leaves turn yellow, dry quickly, buds stop developing, and the tree cannot bear fruit.

Alternaria − infects the leaves and fruits of the apple tree. The first signs of the disease are purple spots on the leaves. The tissue of the infected fruits hardens. Rust − develops on the leaves and fruits of the apple tree. The leaves fall off and the tree weakens. The fruits of infected trees are of poor quality, and the following year such trees do not bear fruit. Fruit rot − as a result, brown or dark brown spots appear on the fruits. The skin of the fruit softens, turns brown and gives off a sour smell. Among the pests, the following can be mentioned: apple green moth, apple bloody moth, pear orchard, apple fruit eater, apple moth, apple glasswing butterfly, apple flower eater. If timely measures are taken to combat these diseases and pests, a bountiful harvest can be obtained from the orchards. The following drugs can be used for this. Proteks-forte 150g\ 100 l of water or Kral 20 ml 100 l of water, Mostar 20g\ 100 l of water or Matodor 20 ml \ 100 l of water Dentis 30ml \ 100 l of water. Pests of apples. Pillows − Their eggs hibernate under the gray-oak colored comma-like shields on the trunk, begin to feed by sucking the sap of the trunk and weaken the trunk, eventually causing the destruction of the branches (Huseynov, Jalilov, & Huseynov, 2017, pp. 97-100).

Leafhopper - mainly its caterpillars weaken the plant

When the shoots begin to swell, they enter the shoots and eat their insides. They feed on the leaves. They cover the leaves with a web and twist them.

Aphids - green aphids and blood aphids are found. They live in colonies on leaves and young shoots. They feed by sucking the sap of the stem and roots.

Apple flower aphids − lay their eggs inside the flower buds of the apple, so that the aphids that hatch from the eggs eat the internal organs of the flower and cause the flower petals to stick together with their secretions. As a result, the flowers do not open and the yield decreases.

Apple fruit aphids − caterpillars eat the inside of the fruit, opening a channel towards the seed chamber and eating the seed embryo. Chemical control should be carried out during the open feeding period of the aphids (Hasanov, 2015, pp. 208-209).

Mites − because they suck the sap of the plant from the plant cells, the leaves turn brown, fade and fall off prematurely. The caterpillars of the Apple Moth settle on the leaves during the budding period of the apple and begin to feed on the leaves. The following measures should be used against diseases and pests of stone fruit varieties.

Treatment	Disease and pest	Medication phase	Name of the drug and dosage per 1ha
sequence 1st	Spotted, manaliosis, downy mildew Pests of apples	Until the buds open	Mosetam 20 g 100 l water Proteks-forte 150 g \ 100 l water
treatment 2nd	Powdery mildew, alternariosis	After flowering	Suncupro Bordeaux 1500g \ 100 l of water
treatment 3rd	Spotted, powdery mildew, rust disease	Before flowering	Saneb 300g \ 100 l\water
treatment 4th	A dewy, floury dew	Access to the pink bud	Antracol 200g \ 100 l of water
treatment 5th	Powdery mildew, powdery mildew, fruit rot	4th spraying 15-20 days later	Antracol 200g \ 100 l of water

Disease control should be carried out prophylactically without observing any symptoms (signs) of the disease. Pest control is carried out based on agronomic observations. Results of the study and their discussion.

The apple varieties we studied occupy a unique place among the valuable fruit plants of the Nakhchivan Autonomous Republic. These plants are mainly valued for their fruit. As a result of the studies we conducted on apple trees and the information we obtained from the literature, it is clear that the following main local varieties of these plants, which constitute the main part of fruit growing in the territory of the Nakhchivan Autonomous Republic, exist: Logazbey, Daraghi, Rajabi, Dash alma, Agh alma, Kepek alma, Pambighi, Dolma alma, Shekeri, Heyva alma, Stekan alma, Tabag alma, Gelin alma, Kuku almasi, etc. Local varieties common in the AR were used in the study.

Conclusion

In the autonomous republic, the best varieties of apples, pears, and apples that differ significantly from each other in terms of ripening time and ripen at different times should be increased, and cross-breeding of these plants should be established. For this purpose, these varieties can be increased by grafting and distributed to farms. Because the economic efficiency of these varieties is very high, and you can get a lot of income from these fruits and strengthen the family budget.

Of the local apple varieties, Sultani, Mazre apple, Ganza, red, Top red varieties are suitable for planting in the mountain and foothill zones of the autonomous republic. Sultani, Mazre apple, Ganza red, and Mikhey apple varieties are suitable varieties because they are of good quality and have a long storage period.

It is appropriate to create a nursery farm in the republic to increase local apple and pear varieties. It is advisable to follow the 6 x 5m planting scheme when establishing mother orchards and planting these varieties in the autonomous republic gardens for the increase of the mentioned varieties.

Considering that these varieties have high efficiency indicators, it is appropriate to replace them with varieties that give low yields and are not adapted to soil and climatic conditions in peasant (farmer) family farms.

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Evaluation of Protein and Some Morphological Indicators in Wheat Samples of Different Ploidy

Abstract

Wheat is second only to corn, with an annual production of 650 million tons it is the most cultivated cereal plant. 25 % of the world's agricultural land is wheat used for plant cultivation. From ancient times to the present day, wheat has been the daily food requirement of the population as the main food crop, occupying one of the most important places in payment. The basis of human nutrition is bread made from soft wheat (*Triticum aestivum* L.) flour and bakery products made from durum wheat (*T. durum* Desf.). It consists of various cereals, pasta, and other food products. Productivity increases by creating productive varieties with high quantitative and qualitative indicators it is possible. Acceleration of selection processes and initial material for creation, the quality indicators of the grains are high. This protein is genetic during the selection of foundation forms the use of markers is appropriate. All agronomic, yield, yield-related, and quality traits on plant and plot basis were recorded from the two middle rows units. Plant-based data were collected from randomly selected and representative 10 plants in the plot while, the plot-based data were collected from the whole harvestable plot. Agronomical traits include plant height, spike length, number of spikelets per spike, number of seeds per spike, seed weight per spike, thousand kernel weight, plant density, and grain protein content. This research was conducted in the grain and leguminous field laboratory of the Azerbaijan State Agrarian University between 2022 and 2023. Phenological observations from the outlet. It was carried out according to Kuperman from the beginning to the full ripening phase. The article on the genetics of some wheat samples with different ploidy studies of diversity based on phenology signs and gliadin proteins and the results obtained are dedicated to comparison.

Keywords: *grain quality, gluten, protein content, morphological index, wheat plant*

Introduction

Wheat (Triticum aestivum L.) is one of the world's most important food crops and a primary food source for an estimated 35 % of the world's population (Grote et al., 2021). Wheat alone supplies a fifth of global food calories and protein (Spanicet al., 2024). Although global wheat production is currently over 700 million tons (Yue, Zhang, & Shang, 2022), the demand for wheat production is projected to increase by 60 % by 2050. Moreover, wheat production is expected to decline due to decreases in land suitability in low latitude areas and to climate changes (high temperatures, heat waves, and droughts) (WorldFoodSituation, 2019), while the world population will increase. Furthermore, it is not negligible that new pests and diseases and new races of existing diseases have emerged (Sunic et al., 2023). Therefore, there is a timely, dire need to evolve new

wheat varieties with traits that could tolerate different stresses and produce higher grain yields. Traits such as crop architecture, phenological date, and spike- and grain-related morphological characteristics are involved in grain yield formation (Li et al., 2023). Due to variations in climate-, biotic-, and abiotic stresses, there are demands for the adaptation of wheat varieties with different phenotypic traits.

Research

The interaction of complex networks of genes with each other and the environment underlies wheat adaptation and influences many phenotypic traits of wheat (Wu, Chang, & Jing, 2021). According to Hyles et al. (2020), wheat adaptation could be achieved through variation in phenology (seasonal timing of the lifecycle) and related traits (e.g., those affecting plant architecture). Nevertheless, the phenological expression of wheat plants is impacted by the environment and genetics, thus allowing wheat genotypes to achieve optimum productivity in the environment in which they were primarily created (Yu & Chung, 2021). In the same research, it was also reported that environmental effects (E) explained approximately 72.2 % of the total variation, whereas genotype (G) and GE interactions explained 6.9 and 18.3 %, respectively. The assessment of genetic diversity is carried out via different marker techniques, such as morphological, biochemical, and molecular markers (Govindaraj et a., 2015). The morphological characteristics of wheat differ according to the genetic composition of the variety (Min et al., 2020). Moreover, the evaluations of phenotypic diversity or morphological traits are important in the differentiation of wheat varieties (Franco et al., 2001). Genetic diversity is fundamental for conducting successful crop improvement programs. The objectives of this study were to assess the genetic diversity and to deduce the population structure among bread wheat (Triticum aestivum L.) genotypes using phenotypic traits (Yu & Chung, 2021). Before their release into production, and are granted plant variety protection, the most common system of intellectual property protection. The storage proteins of gliadin and gluten, called gluten proteins make up 80 % of the endosperm of the wheat grain, so baking flour knows its quality. Soft wheat the quality indicators of the bread made from flour of different varieties, mainly depends on the ratio of gliadin and gluten storage proteins since these proteins are quality indicators as genetic markers the study of which is scientifically and practically very relevant. The characteristics of a quality variety of bread are determined. Organic and non-organic bread are necessary for human-related topics. High-resolution baked goods from the world level with formation, including hybridization and others by the application of the methods, and also some to the wheat flour produced by improving the quality of additions extensive scientific research works.

Materials and Methods

The study was conducted on 50 samples of wheat of different ploidy in the field laboratory of "Grains and Legumes" field laboratory of Azerbaijan State Agrarian University. Sowing (468m altitude, 40°40´N, 46°20´E) was planted. 2 of the samples are diploid (including -2 T.monococcum), 37 are tetraploid (including-26-T.durum, 4-T.timopheevi, 2-T.polonicum, 3-T.turgidum, 2-T. dicoccum), 11 were additional hexaploid (including 5-T. spelta, 6-T.aestivum) wheat samples. Phenological observations were made according to Kuperman. At the same time, analyzes of grains in the grain quality laboratory at the Agricultural Scientific-Research Institute - the mass of 1000 grains, vitreousness taking into account the amount of vitreous and semi-vitreous grains in the cross-section of the grain, the amount of gluten by washing the starch and bran from the dough by hand washing in running water, and the deformation coefficient of gluten (GDE) Made in Russia The quality group of gluten was determined with the help of IDK-1 device. Determination of total nitrogen (Modified Keldal micromethod) was determined.

Results and their Discussion

Height productivity is one of the important morphological traits that plays the main role in wheat plants. In the conditions of Azerbaijan, the optimal height of a wheat plant can be considered 70-146 cm. Biomorphological indicators of local and introduced durum wheat genotypes were comparatively studied (Table 1). The tallest sample of T. durum var. hordeiforme Körn.was 70 cm, and T.durum, T.durum var.leucurum Körn was 133 cm. The number of productive stems was

between 6-13. The morphological characteristics of flag leaves are one of the most important determinants of plant architecture and yield potential. From the morphological indicators of the spike, the length of the spike was 4,5-11 cm. T.turgidum was 4,5 cm. T.spelta and T.durum were 11 cm. The mass of 1000 grains in the samples varied between 30.3-56.3 g. GWS was between 0.6-2.5. The highest indicator was T.durum 2.6 g in durum wheat and the lowest was T.durum 0.6 g. The number of productive stems was between 6-13. The highest indicator was 13 stems in T.spelta, and the others were between 7-8. The number of spikelets in the spike was determined to be the highest in T.monococcum, 28, and the lowest in T.dicoccum, 13.

Table 1

Biomor phological characteristics of wheat genotypes of different origins

№	Species	PH, cm	SPL, cm	MS, cm	SNS, number	GWS, g	TGW, G
1	2	4	5	6	7	8	9
1	T.durum *var.* valenciae *Körn.*	88	7,0	8	15	1,2	36,2
2	T.durum *var.leucurum Körn.*	135	6,8	8	17	1,5	44,1
3	T.durum *var.affine Körn.*	135	7,5	7	16	2	34,5
4	T.polonicum	82	8,0	10	18	2,3	33,9
5	T.durum var. valenciae *Körn.*	85	7,0	9	19	0,9	42,7
6	T.polonicum	69	10	9	19	1,6	39,3
7	T.spelta	80	7,5	12	14	1,3	41,7
8	T.turgidum	79	9,5	7	15	1,5	39,8
9	T.durum var.melanopus Körn.	114	7,2	7	21	2,6	50,3
10	T.aestivum	96	8,0	12	17	1,7	45
11	T.durum var.obscurum Körn.	90	7,9	10	23	1,6	42,9
12	T.durum var.hordeiformeKörn.	70	7,4	9,5	21	1,9	52,3
13	T.durum var.leucomelan Körn.	99	6,8	10	21	2,6	36,8
14	T.turgidum	87	9,0	9	16	0,9	50,6
15	T.durum var.provinciale Körn.	74	5,8	11	23	1,8	47,6
16	T.durum var.valenciae Körn.	146	7,0	10	22	2,5	51,2
17	T.durum var.leucurum Körn.	133	7,6	9	19	1,5	39,6
18	T.turgidum	118	4,5	9	15	2,3	38,5
19	T.durum var.fastuosum Körn.	145	9,3	10	23	2,5	47,6
20	T.durum var.reichenbachiiKörn.	86	8,0	8	18	2	44,3
21	T.timopheevi	83	9,0	6	22	1,9	35,6
22	T.spelta	72	11	13	15	2,5	38,9
23	T.aestivum	89	7,5	11	19	2,2	51,3
24	T.turgidium	140	9,0	8	17	1,8	34,9
25	T.durum	78	7,5	9	21	1,4	42,6
26	T.timopheevi	93	10	8	26	2,2	45,9
27	T.durum	137	9,0	9	26	2,6	48,6
28	T. spelta	84	7,0	11	12	1,8	52,3
29	T. spelta	74	8,5	13	14	1,2	39,4
30	T.durum	115	10	9	21	0,6	56,3
31	T.aestivum	78	6,9	8	18	1,5	49,8
32	T.aestivum	99	8,0	8	17	2,4	51,3
33	T.aestivum	76	10	6	14	1,6	38,4
34	T.monococcum	90.6	7,9	7,4	20,5	0,96	30,3

35	T.durum	73	6,4	7	16	1,2	49
36	T.durum	74	7,5	9	18	1,5	51,3
37	T.aestivum	126	7,5	11	14	2,3	50,6
38	T.durum	133	9,8	9	22	1,6	46,8
39	T.durum	84	11	7	21	1,4	49,6
40	T.timopheevi	68	7,5	8	25	1,3	53,6
41	T.durum	89	6,0	9	22	3	44,6
42	T.durum	136	6,0	6	20	1,7	49,8
43	T.durum	70	7,8	8	23	0,9	45,9
44	T.monococcum	98	8,0	7	28	1,6	55
45	T. spelta	99	6,0	13	19	1,8	39
46	T.timopheevi	86	10	7	24	1,5	45,8
47	T.dicoccum	80	7,3	7	16	1,5	44,3
48	T.durum	83	9,5	8	20	1,6	43,7
49	T.durum	94	8,2	7	18	0,7	51,3
50	T.dicoccum	78	8,0	6	13	1,2	39,4

Keys to abbreviations: PH: plant height, **SPL:** spike length, **SPS:** the number of grains spike, **TGW:** thousand-grain weight, **GWS** grain weight of per spike, **SNS**: spikelet number per spike, **MS:** on the main stems.

The biochemical indicators of the grain, the amount of gluten and the amount of total protein in wheat samples of different origins, were studied on 15 samples. From the physical parameters of the grain, the vitreousness varied between 24-100 % in the studied samples (Table 2). In the T. durum var. leucurum (Alef.) Körn. sample, it was determined that the vitreousness was 100 %. However, in the T. spelta var. menabdii Dorof. and T. monococcum var. flavescens Körn. samples, the vitreousness was 24.0 % and 31.0 %. In the research work, the GDE (deformation coefficient of gluten) varied between 63.7 and 97.5 units (instrument indicator). The highest indicator was T. durum var. valenciae Körn. (97.5). The protein was between 12.0 and 15.4. The highest indicator was T. durum var. valenciae Körn. and T. durum var. leucurum (Alef.) Korn. samples. Gluten was between 22.2 and 37.2.

Table 2

Quality indicators of polyploid wheat genotypes

№	Species	Vitreiuoss %	Gluten %	GDƏ c.g	Protein %
1	T. aestivum *var.* nigrum *Körn.*	57,0	22,2	65,9	12,0
2	T. aestivum *var.* ferrugineum *(Alef.) Mansf.*	76,5	30,0	80,7	13,8
3	T. durum *var.* valenciae *Körn.*	81,5	31,0	97,5	14,6
4	T. turgidumvar. fumidum Körn.	60,5	31,8	65,5	13,4
5	T. spelta var. menabdii Dorof.	24,0	22,4	86,3	12,6
6	T. aestivum *var.* lutescens *(Alef.) Mansf.*	65,5	26,8	89,9	12,6
7	T. timopheevii var. typicum Zhuk.	60,0	35,2	82,7	12,0
8	T. durum *var.* leucurum *(Alef.) Körn.*	100	34,8	88,4	14,6
9	T. monococcum var. flavescens Körn.	31,0	37,2	80,3	12,6
10	T. dicoccum rufum automnal *Stolet.*	73,0	36,0	63,7	16,2
11	T. vulgare *var.* milturum *Alef.*	73,5	26,0	94,4	13,8
12	T. aestivum *var.*erythroleucon *(Körn.) Mansf.*	65,5	30,0	96,1	15,4
13	T. durum *var.* affine *Körn.*	100	28,6	84,4	14,6
14	T. durum *var.* erythromelan *Körn*	77,0	32,0	89,4	14,4
15	T. durum *var.* libycum *Körn*	100	30,5	82,6	15,0

Conclusion

Thus we when look at the morphological characteristics of the genotypes, the shortest plant was height in T. durum. When we pay attention to the productivity elements, T. spelta was selected for its spike length, the mass of grain in 1 spike and the weight of 1000 grains were high in the samples of durum wheat species, but physiological indicators prevailed in the genotypes of wild species and they might be used as starting material in selection. According to the qualitative indicators, the glassiness of the grain was studied in the samples of T. durum var. libycum Körn and T. durum var. affine Körn. dominated. Research work is ongoing.

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Adsorption Study of Fe (III) Ions By Cellulose/Fe_3O_4/Sio_2/4-Aminoantipyrine

Abstract

A magnetic sorbent was synthesized by modifying the cellulose/Fe_3O_4/SiO_2 nanocomposite with 4-aminoantipyrine. The sorption of iron (III) ions with the synthesized sorbent was studied under static conditions. It was found that the extraction of Fe(III) ions was maximal at pH = 4.0. The study of the sorption of iron (III) ions over time showed that complete sorption occurs within 2 hours under static conditions. The ionic strength of the solution up to 1.2 M does not affect the sorption of iron (III) ions. The results showed that a significant decrease in sorption occurs in solutions with ionic strength higher than 1.2 M, and as the concentration of iron (III) in the solution increases, the amount of sorbed metal increases, with the maximum observed at a concentration of $7.0 \cdot 10^{-3}$ mol/L. The sorption capacity of the sorbent is 384 mg/g. In the final stage, desorption of mineral acids (HCl, H_2SO_4, $HClO_4$, HNO_3) with different concentrations was performed. It was established that iron (III) ions are maximally extracted from the sorbent when using 1.0 M $HClO_4$, with a desorption degree of 96 %.

Keywords: *iron (III) ion, magnetic sorbent, sorption, ionic strength, desorption*

Introduction

Magnetic sorbents have garnered significant interest in recent years for their versatile applications in environmental remediation, catalysis, and biomedical fields. These materials, particularly magnetic nanocomposites, offer unique advantages such as high sorption capacities, easy recovery from solutions using external magnetic fields, and tunable surface functionalities for selective ion capture (Liang et al., 2019; Ge et al., 2012). Among these, cellulose-based magnetic nanocomposites stand out due to their biocompatibility, renewability, and environmentally friendly nature (Mishra et al., 2021; Wu et al., 2022).

Magnetic nanoparticles are most commonly composed of metals such as nickel, iron, cobalt, and their oxides (Foroutan et al., 2002; You et al., 2021; Azeez & Al-Zuhairi, 2022). Magnetic iron oxide nanomaterials offer significant advantages for wastewater treatment, providing higher efficiency and more effective removal of harmful contaminants (Raha & Ahmaruzzaman, 2022; Pinto et al., 2020).

Research

Metal nanoparticles without special coatings possess high chemical activity and easily oxidize in air, leading to the loss of their dispersive and magnetic properties. Therefore, it is important to design and develop approaches for protecting magnetic nanoparticles for chemical stabilization without using special coatings. These surface modification approaches for magnetic nanoparticles include methods such as grafting or coating with an inorganic layer, such as carbon or silicon, or coating with organic compounds, including polymers and surfactants (Lu, Salabas, & Schüth, 2007; Laurent, 2008).

A variety of methods for synthesizing iron oxide nanomaterials and their versatile composites have been developed. Recent studies highlight that the surface properties of nanoparticles play a crucial role in determining their colloidal stability, magnetic behavior, and physicochemical characteristics (Alizadeh et al., 2020; Gupta, 2005).

This work is devoted to the concentration of Fe(III) ions using a magnetic sorbent obtained by modifying the cellulose/Fe_3O_4/SiO_2 nanocomposite with 4-aminoantipyrine.

Experimental Section

Cellulose/Fe₃O₄ Nanocomposite: Synthesized via chemical co-precipitation. $FeCl_2 \cdot 4H_2O$ and cellulose solutions were ultrasonicated for 30 minutes and purged with nitrogen gas for 30 minutes. The Fe(II) solution was added dropwise to the cellulose dispersion with stirring (800 rpm). At 90°C, ammonia solution (28 %) was added to adjust the pH to 11–12. The black precipitate was magnetically separated, washed, and dried at 60°C for 12 hours.

Cellulose/Fe₃O₄/SiO₂ Nanocomposite: Coated using the Stöber method. Cellulose/Fe_3O_4 was dispersed in ethanol, ultrasonicated for 50 minutes, and mixed with ammonia (28%). Tetraethyl orthosilicate (350 µL) was added dropwise, and the mixture was stirred for 4 hours at room temperature. The product was magnetically separated, washed, and dried at 60°C for 12 hours.

Cellulose/Fe₃O₄/SiO₂/4-Aminoantipyrine nanocomposite: Prepared by impregnation. Cellulose/Fe_3O_4/SiO_2 and 4-aminoantipyrine (9:1 weight ratio) were stirred in acetone at room temperature for 8 hours. The resulting material was separated, washed, and dried at 40°C for 1 hour.

Apparatus

The pH of the solutions was measured using a PHS-25 ion meter with a glass electrode. The optical density of the solutions was measured using a KF-2 photocolorimeter in cuvettes with an absorption path length of l=1.0 cm. For mixing the solutions, an ORBITAL SHAKER TS-1 thermomixer was used. The sorbent was dried in a Zymark Turbo Vap LV drying oven.

Reagents and Solutions

A standard $1.0 \cdot 10^{-1}$ M iron(III) solution was prepared by dissolving a calculated amount of metallic iron following the method described in. Working solutions of $1.0 \cdot 10^{-2}$ M and $1.0 \cdot 10^{-3}$ M were obtained by diluting the stock solution with distilled water prior to use. Solutions of $2.0 \cdot 10^{-3}$ M 3-((2-hydroxyphenyl) diazenyl) pentadione-2,4 (R) and 1,10-phenanthroline (Phen) were prepared by dissolving the respective amounts of reagents in ethanol. To adjust the required acidity, acetate-ammonia buffer solutions (pH 3–11) and Fixanal HCl (pH 0–2) were used. All reagents used had a qualification of at least analytical grade.

Experimental Methodology

Sorption was studied under static conditions. To maintain a constant ionic strength, potassium chloride solutions were used. The concentration of iron(III) was determined in the form of a mixed-ligand complex with 3-((2-hydroxyphenyl) diazenyl) pentadione-2,4 and 1,10-phenanthroline, based on a previously constructed calibration curve (Nagiyev et al., 2020).

Results and Discussion

Effect of pH on Sorption: To determine the effect of pH on the concentration of iron (III) using a chelating sorbent, 30 mg of the sorbent was added to 2.0 mL of a $1.0 \cdot 10^{-2}$ M iron (III) solution and left in a buffer solution at pH = 4.0. The resulting mixture was filtered, and the concentration of iron (III) ions was determined using a photometric method with 3-((2-hydroxyphenyl) diazenyl) pentadione-2,4 and 1,10-phenanthroline. The number of adsorbed ions was calculated. The obtained results are presented in Table 1.

Table 1
Sorption capacity at different pH values

pH	1	2	3	4	5	6	7
SC, mg/g	187	272	349	384	318	126	23

It was found that the extraction of iron ion is maximized at pH = 4.0. All subsequent studies were conducted at pH = 4.0.

Contact Time

To establish the relationship between sorption and time and to achieve sorption equilibrium, 30 mg of the sorbent was placed into a flask, followed by the addition of 2.0 mL of $1.0 \cdot 10^{-2}$ M iron

(III) solution and acetate-ammonia buffer solution at pH = 4.0. Under static conditions, full sorption of iron occurred within 2 hours.

Effect of Ionic Strength

To study the effect of ionic strength on the sorption of iron (III) ions, an equal volume (20 mL) of solution was introduced into chemical glassware of the same volume at pH = 4.0. Conditions for different ionic strengths (0.1-1.2) were created by adding different amounts of KCl with a concentration of 2 mol/L. The solution was left for 2 hours, and after filtration, the amount of absorbed metal was determined using the calibration curve. It was found that increasing the ionic strength up to 1.2 had no effect on sorption, but further increases resulted in a significant decrease in sorption. This is due to the fact that as the ionic environment of the functional groups increases, the probability of forming a sorbent with magnetic properties of iron (III) decreases.

Effect of Concentration

To study the effect of initial concentration of iron (III) ions on the sorption process, 30 mg of sorbent was placed into the sorption flask, followed by the addition of a specific amount of $1.0 \cdot 10^{-2}$ M iron (III) solution and buffer solution at pH = 4.0. The analysis results showed that the maximum sorption capacity of the sorbent for iron (III) ions was observed at a concentration of $7.0 \cdot 10^{-3}$ M.

To investigate the optimal sorption conditions for iron (III), a sorption isotherm was constructed. For this purpose, after 2 hours, the mixture was filtered, and the content of unadsorbed iron (III) was determined using a previously constructed calibration curve. It was found that the sorption capacity of the sorbent at pH 4.0 was 384 mg/g (Figure 1)
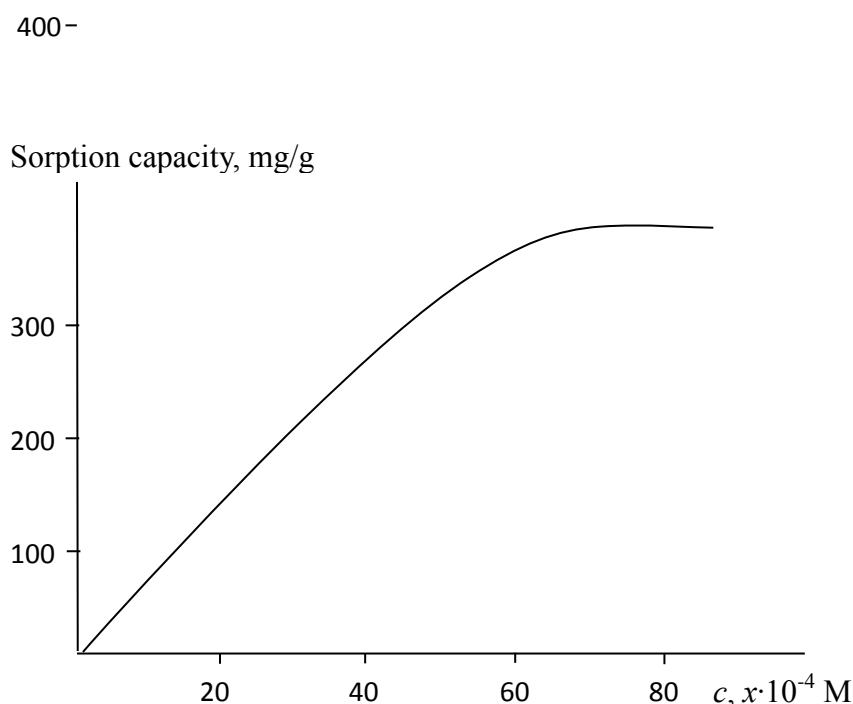

Fig. 1 Isotherm of iron (III) sorption by magnetic sorbent
m_{sorb} = 50 mg, V=20 ml, pH 4.0

Effect of Acid Solution Concentration on Desorption of Iron (III) Ions: The effect of various acids (HCl, H_2SO_4, $HClO_4$, HNO_3) on the desorption of iron (III) ions was studied (Table 2). For this purpose, equal masses of sorbent samples containing the same amount of Fe (III) ions were added to chemical beakers of the same volume. Then, solutions of the specified acids with different concentrations (0.5-2.0 mol/L) and varying volumes (5-20 mL) were added to the sorbents, and the concentration of iron (III) ions that transitioned into the solution was determined photometrically.

The results showed that the desorption degree (%) was higher when using a solution volume of 5 mL of acids with different concentrations, which was consistent across all experiments. It was found that the desorption degree was maximal when using 1.0 M $HClO_4$ (96 %).

Table 2

Effect of different acids on the desorption degree of iron (III) (%) (n=5)

Acid	Concentration, mol/l,	Desorption Degree, %
HCl	0,5	69
	1,0	71
	1,5	75
	2,0	73
H_2SO_4	0,5	82
	1,0	84
	1,5	91
	2,0	92
$HClO_4$	0,5	92
	1,0	96
	1,5	93
	2,0	88
HNO_3	0,5	75
	1,0	82
	1,5	84
	2,0	87

Conclusion

As a result of the study, a new sorbent with magnetic properties was synthesized by modifying the cellulose/Fe_3O_4/SiO_2 nanocomposite with 4-aminoantipyrine. The sorption properties of iron (III) ions with the synthesized sorbent were studied under static conditions. It was found that the sorbent quantitatively extracts iron (III) at pH = 4.0, with the sorption capacity of the sorbent being 384 mg/g. Additionally, according to the analysis, Fe (III) ions are maximally extracted from the sorbent when using 1.0 M $HClO_4$, with the desorption degree being 96 %.

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Pregnancy Outcome and Uterine Fibroids

Abstract

Myomas are observed in about 3–12 % of pregnant women. Uterine fibroids may affect the outcome of pregnancy. The presence of myomas – in particular of myomas that distort the uterine cavity and larger intramural myomas – has been associated with infertility. In the case of pregnancy, it has been linked to an increased risk of spontaneous abortion, fetal malpresentation, placenta previa, preterm birth, cesarean section, and peripartum hemorrhage. Although fibroids may negatively affect pregnancy outcome, the impact of their treatment, particularly in quantitative terms is unclear. Hysteroscopic myomectomy is the treatment of choice for submucous fibroids. The comparative efficacy of laparoscopic, laparotomic, or new modalities of treatment of intramural fibroids is not known. Up to date the choice and modalities of treatment of submucous fibroids should not be based on sound evidence but on clinical concerns and the skill of each center.

Keywords: *fibroids, submucous, myomas,pregnant, woman, treatment, uterine*

Introduction

Uterine fibroids are a common condition (Klatsky et al., 2008): in particular, myomas are reported in about 3–12 % of pregnant women (Metwally et al., 2011; Pritts, Shavell et al., 2012). In addition to causing pain, uterine fibroids may also affect the outcome of pregnancy. The presence of myomas – in particular of myomas that distort the uterine cavity and larger intramural myomas – has been associated with infertility; in the case of pregnancy, this has been linked to an increased risk of spontaneous abortion, fetal malpresentation, placenta previa, preterm birth, cesarean section, and peripartum hemorrhage (Coronado et al., 2000). Myomectomy is the standard of care for treating symptomatic fibroids in women who wish to bear more children. However, presently, other techniques such as artery embolization, robot-assisted myomectomy, or magnetic resonance imaging (MRI)-guided focused ultrasound surgery (MRgFUS) are available. However, the different efficacy profiles of different techniques on the pregnancy outcome are still a matter of debate (Michels et al., 2014; Shen et al., 2012). In this paper, we review the association between fibroids and pregnancy outcome, as well as the role of fibroid treatment in improving the pregnancy outcome.

Research

Myoma can have harmful effects on the baby at any stage of pregnancy. While it can cause miscarriage in the early weeks of pregnancy, it can cause harmful effects for both the mother and the baby in the later weeks of pregnancy (Karlsen et al., 2020; Ezzedine & Norwitz, 2016).

Possible harms of myoma to pregnancy are;

Premature birth,

Early water rupture,

Early separation of the partner (placental abruption),

The partner being in the front (placenta previa),

Inhibition of baby's development,

Low birth weight,

Postpartum bleeding,

Uterine rupture,

Cesarean section.

Myomas increase the risk of miscarriage depending on their location and size. Especially submucous and intramural myomas can cause miscarriage. Even if the size of a submucous myoma is small, it can cause miscarriage. Therefore, if a submucous myoma is detected in a woman planning pregnancy, the myoma should be surgically removed before pregnancy.

Intramural myomas must press on the inner wall of the uterus to cause miscarriage. Intramural myomas that do not press on the inner wall of the uterus (endometrium), that is, far from the cavity where the baby will settle, do not cause miscarriage.

If intramural myomas have reached dangerous sizes, they can cause miscarriage by causing contractions in the uterus. However, this is rare. Intramural myomas that have reached very large sizes but do not press on the inner wall of the uterus can more often cause premature birth or miscarriage in later weeks of pregnancy. They do not cause miscarriage in early weeks of pregnancy (Li et al., 2024).

Subserous fibroids, which are fibroids that have grown outside the uterus, do not cause pregnancy loss.

Myoma and Premature Birth — Births that occur before the 37th week of pregnancy are called premature birth. There are many causes of premature birth, one of which is fibroids. Myomas reduce the flexibility of the uterus and cause premature birth by increasing the secretion of the oxytocin hormone that causes labor pain.

Myomas can also cause the baby's water to break before starting labor pains. If the baby's water breaks early, the birth should be carried out after the necessary preparations. Because early water break increases the risk of infection in the baby and the mother.

Studies have shown that intramural, large or multiple fibroids cause premature birth. Subserous fibroids are not expected to cause premature birth.

Myoma and Problems with the Baby's Placenta — Myomas can cause problems with the baby's placenta due to their space-occupying effects. Myomas cause problems with the placenta by putting pressure on the uterus and disrupting blood flow. These problems include placental abruption and placenta previa.

Placental abruption is defined as the premature separation of the baby's placenta, while placenta previa is defined as the baby's placenta being in front. Placental abruption is a cause for emergency cesarean section. If the baby is not delivered within minutes, the baby may be lost. A fatal condition due to clotting may be observed in the mother.

If the baby's placenta is in front, there is a risk of bleeding during pregnancy at any time. If the bleeding cannot control itself, an emergency cesarean section should be performed regardless of the week of pregnancy. If the myoma is located behind the baby's placenta, it may cause the placenta to separate early due to pressure and disruption of blood flow.

Myoma and Postpartum Bleeding — Since myomas reduce the ability of the uterus to contract, they may increase the risk of postpartum bleeding. Therefore, a woman who has myoma and gives birth should be alert for bleeding. Necessary precautions should be taken to prevent bleeding.

Myomas can also cause postpartum bleeding by preventing the baby's placenta from separating. In this case, the baby's placenta may need to be removed with a method called manual removal.

Conclusion

A myoma can prevent a normal birth by preventing the baby from being breech or entering the birth canal. In a normal pregnancy, the baby should turn from breech to head delivery in the later weeks of pregnancy. However, due to the myoma, the baby cannot make rotation movements and remains in the breech position.

When labor begins, the baby should enter the birth canal with the pains. However, due to the pressure of the myoma, the baby cannot enter the birth canal and labor does not progress.

Due to these factors, a woman with a myoma is more likely to have a cesarean section. However, this does not mean that those with myoma cannot have a normal birth. It is decided whether a woman with a myoma can have a normal birth or not according to the baby's position, weight and the patient's examination.

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